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University of Cincinnati Record

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1908

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1908

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THE SECRETARY OF THE UNIVERSITY,
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Committee on Real Estate:

MESSRS. HOOKER, MOFFETT, BROWN.

Committee on University Grounds and Buildings:

MESSRS. BROWN, DU BRUL, CARSON

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Committee on Professional Schools of Law and Medicine:

MESSRS. STEWART, DU BRUL, HOOKER

Committee on Engineering College and Technical School:

MESSRS. DU BRUL, GEIER, GUCKENBERGER

REPORT OF THE CHAIRMAN

CINCINNATI, O., December 31, 1908.

To the Honorable Mayor and
Council of the City of Cincinnati:

GENTLEMEN—In accordance with the provisions of the statutes creating the Board of Directors of the University of Cincinnati and defining its powers and duties, I herewith submit the annual report for the year 1908. This report includes a full statement of the accounts of the administration of the trust and other funds in the hands of the Board and a history of the University for the year, with a statement of the needs of the institution, in the reports of the President and heads of departments.

The terms of service of Messrs. Ellis G. Kinkead, Oscar W. Kuhn and Dr. Joseph Ransohoff as Directors expired with the beginning of the year, and Drs. Robert W. Stewart and Archibald I. Carson and Mr. George Guckenberger were named as their successors. The retiring directors deserve the gratitude of the public for their long and faithful services as members of the Board, and the new members are cordially welcomed. The Board organized for the year by the election of the undersigned as Chairman and Mr. Daniel Laurence as Clerk.

Under the statutes authorizing the Board of Directors to delegate and commit authority for the administration of the internal affairs of the University to a faculty appointed from among the professors (see Section 4099), the Board three years ago by by-laws directed the formation of a University Senate, composed of the President as Chairman, the Deans of the Colleges, the Director of the Observatory, and one other member elected by the faculty of each college. The Senate has "charge of all matters of general interest to the several colleges and the Graduate

School, and shall consider such other matters of general policy as may be referred to it by the Board or the President, and shall make written recommendations with reference thereto." With the multiplication of the colleges in the University and the growth of the general business of the institution, such a body was necessary. The Senate is now fully organized, meets regularly, and exercises great influence in unifying the University. It has cooperated with the several faculties in the University, and has brought all the members of the University together for the better service of the entire institution. The Senate has also done admirable work in the past year in aiding the Board and President in fixing the policies of the institution and in presenting its needs to the people of Cincinnati.

The legislation pertaining to the University was greatly improved in a much-needed manner by an act of the Legislature of 1908, authorizing "municipal corporations to issue bonds for constructing additional buildings for municipal universities." This act received the unanimous support of the delegation from Hamilton County, and passed each house of the Legislature unanimously. The thanks of the Board and the entire people are due to the chairman and members of the Hamilton County delegation and to the committees of the House and Senate for their assistance in perfecting and passing the act. The city had no authority under former laws to provide the means with which to build up the University, and this act, therefore, supplements, in a vital manner, the legislation founding the University.

The accompanying statements, compiled by the Clerk, give interesting information with regard to the present condition of the endowments and income of the University. Counting all endowment securities at face value and capitalizing the income from the real estate at four per cent, we are informed that the total value of the productive endowments held by this Board for the benefit of the colleges in Burnet Woods (excluding the endowments of the Law College held by a separate Board) amounted this year to $1,040,882.75. Much of this real estate is in very poor condition and therefore produces a very small income compared with what it should yield. The Browne estate, for example, is entirely unproductive, so is much of the Thoms estate, and a large part of the Ropes estate. It is impossible to say accurately,

but the University must own more than $100,000 worth of unproductive land alone.

Considerable improvements have been made by the Real Estate Committee in the last five years; for if we estimate the value of this property as it stood in 1904, it amounted to only $813,686. This shows an increase since that time in the productive endowments, including the Ropes bequest and the Hanna Fellowship, of $227,196.75, or 27 per cent. The Real Estate Committee has under consideration measures to improve further the realty of the University held as endowment.

The conditions of nearly all the bequests make it impossible to sell any portion of these properties for the improvement of other parts of them. Some additional legislation or other measure is needed, therefore, to enable the Board to get the means with which to improve these properties. In many cases the condition of the University property is a disgrace to the neighborhoods in which they are located and to the city that owns them.

The University has in the past needed all the income from these properties to carry on the colleges, so that it has not been possible to reserve any part of its income for their improvement, and many of the properties produce no income whatever. Some way of using the credit of the city to improve these properties and make them serve the interests for which given is absolutely necessary. It is for the interest of the city at large, as well as of the University, that all these unimproved properties be improved and all dilapidated buildings be put in creditable and productive condition.

The bequest under the wills of Mary Pickman and Eliza Orne Ropes, consisting of a large and valuable piece of unimproved real estate, two buildings, and a few railroad and other securities, was received during the year. This furnishes an illustration of the need just referred to. There is not enough money in the securities donated to make any improvements on the realty. One of the largest pieces of property given us by the Misses Ropes is a lot that would be valuable for manufacturing purposes, but it is now vacant and therefore produces no income. Both of the buildings need to be repaired, or otherwise improved, and the estate has no funds with which to do this, unless we sell some of the land, which we certainly should not do. Any other owner or corpora-

tion would borrow money to make the improvements desired and pay it back from the income received, but the Board of Directors is not authorized to do this. It is suggested that authority be given to issue bonds for this purpose, or that in some other way the credit of the city be loaned to the University to get the funds with which to improve these properties, so as to make them creditable to the city and productive for the institution.

The work of the Ropes department of comparative literature was inaugurated in the autumn by a series of splendid lectures given by distinguished scholars from American and foreign universities. These lectures were largely attended and aroused much enthusiasm among the people. University Day this year was devoted to the celebration of the beginning of the course.

Returning to the consideration of the endowments and income of the University, we find that, whereas the income from productive endowments in 1904 was $31,464.75, the income in 1908 was $40,598.61, an increase of $9,133.86 or 29 per cent. This last includes scholarship and fellowship funds received from the Endowment Fund Association, the Colonial Dames, and the Daughters of the American Revolution, which, however, amount to less than $1,000. The increase is good and is due chiefly to the wise management of the Real Estate Committee, but it might have been made much larger, if, as explained above, the committee had had the means with which to improve properly the realty.

The remaining income of the University may be divided into two heads, namely: first, that received from tuitions and other fees, private donations for the current year, and miscellaneous sources, which amounted this year to $36,225.82, as against $17,681.41 in the year 1904, an increase of $18,544.41 or 104.8 per cent;

And, secondly, the income from the city (direct taxation, including the Observatory levy, and the allowance from the Board of Education), which this year amounted in total to $146,385.19, as against $75,145.46 in 1904, an increase of $71,239.73 or 94.8 per cent.

When we come to add up the total income of the University, still excluding the Law and Medical Colleges, but including the Observatory, we find that in the year 1908 it was $236,945.29, as against $123,991.62 in 1904, an increase of $112,953.67 or

91.1 per cent. If we include the incomes from the Law and Medical Colleges, which pass through our hands, the total income of all colleges of the University for the session of 1907-08 was approximately $255,275.

Of the total income for the colleges in Burnet Woods (excluding the Law and Medical Colleges, but including the sum contributed by the Board of Education for the College for Teachers), there was expended for salaries in 1908, $112,121.63, as against $68,254.13 in 1904, when, however, there was no Teachers' College or Graduate School, the salaries of both of which are included in the above. This shows an increase in salaries, chiefly on account of the new colleges organized, of $43,867.50 or 64.3 per cent. Excluding the salaries in the College for Teachers contributed by the Board of Education, the total salary budget of the colleges in Burnet Woods in 1908 amounted to $102,-500.03, an increase of 50 per cent paid in these colleges as compared with the year ending in 1904, which is a fairer comparison.

In this connection we call especial attention to the fact that, while the total income of the Burnet Woods colleges and the Observatory has increased 91.4 per cent since 1904, the total amount paid out in salaries has only increased 64.3 per cent, or, omitting the amount contributed by the Board of Education, only 50 per cent. In other words, a large portion of the income has been invested in apparatus, equipment, books and improvements upon buildings belonging to the endowments, as well as upon those used by the colleges.

Among the larger improvements made on the buildings of the colleges in Burnet Woods and of the Observatory and equipments added thereto, the following may be mentioned: the completion and equipment of the fourth floor of McMicken Hall for the department of geology and a museum of natural history; the completion and equipment of the north wing of the Engineering annex; coal-bins, fire-line and smoke consumer; large additions to the equipment of the laboratories of mechanical, electrical and civil engineering, and of physics and chemistry, including particularly a metallurgical laboratory; a new telescope and other instruments, and a new Observatory building; the museum installed, arranged and classified; and the grounds—especially the front upon Clifton avenue—graded, planted and improved. All

of these things are investments for the improvement of the University, and if we add those made upon the real estate forming a part of the endowments, they would aggregate in the last five years an amount approximating $200,000.

The President was authorized to announce at the last Commencement that the University has been enrolled upon the list of institutions whose professors will receive the benefits of the Carnegie Foundation for the Advancement of Teaching. This Foundation provides service and disability pensions for all teachers and professors of institutions of learning of the college grade. Only those colleges having a certain high standard are admitted to the list, and it is, therefore, a matter of satisfaction that our institution has been recognized as having this standard. It was the first public supported institution to receive this recognition from the Foundation.

An analysis of the student attendance upon the colleges in Burnet Woods for the session of 1907-08 gives the following results (the catalogue published in the first semester does not give the complete enrollment for the year):

ENROLLMENT FOR THE YEAR.

College of Liberal Arts—Regular Students	416
Teachers and Externals in Liberals Arts	335
Engineering College	176
Teachers College alone	158
Gratuate School	93
Total	1,178
Counted twice (principally teachers)	144
Net Total in Colleges in Burnet Woods	1,034

Including the students in the Colleges of Law and Medicine, the total attendance of regular students for 1907-08 was 1,240.

The attendance in the colleges in Burnet Woods, as far as organized, in 1903-04, including all teachers, graduates, etc., was 547, an increase in the student attendance in 1907-08 as compared with 1903-4 of 89 per cent. At the same time, the standard of admission has been advanced very much, which has, of course, tended to reduce the attendance. The attendance upon the same

colleges during the first semester of 1908-09 was 1,097, indicating that there will be a continued increase during the current session.

A department of geology was added to the Colleges of Liberal Arts and Engineering during the year 1907-08, and the work in the new department of political science was begun with the opening of the current session.

The number of courses given in all the departments has been increased proportionately with the number of students and the new colleges organized. In 1904 the University consisted of the College of Liberal Arts, the College of Law, and the College of Medicine, with the College for Teachers and the Engineering College still inchoate. Since that time the College of Engineering has been reorganized under a separate faculty, and the College for Teachers and the Graduate School have been established. Six new departments of instruction have been added in these Colleges during the same period, and about 125 new courses arranged for.

To give this additional instruction, a number of additional professors and instructors have been employed. In the colleges in Burnet Woods and the Observatory, including the administrative officers, are now employed 95 persons, as against 56 in 1903-04, an increase of 39 persons, or 69 per cent.

The growth and service of the Graduate School, organized three years ago, is a matter of gratification. It already has 92 students, all graduates of colleges of good standing, who are taking advanced studies for higher degrees. The Engineering College is meeting with marked success, especially in its new Co-operative Courses. In view of the multiplication of the colleges and the large increase in attendance, especially of the growth of the Engineering College, the Teachers College, and the Graduate School, we urge upon the attention of the Honorable Mayor and Council the need of a new Engineering building, a gymnasium, dormitories, and the other buildings mentioned in the report of the President.

The accompanying reports show in detail what has been accomplished during the year and what is to be undertaken in the future, with the recommendations of the President and heads of departments as to the needs of the respective departments. I

heartily concur in all the recommendations made therein, and commend these reports to your very careful consideration.

On behalf of the Board, I desire to express its sincere thanks to the Honorable Mayor and Council for their cordial support in all its endeavors for the University, and especially for allowing the maximum levy authorized by law for the maintenance of the institution.

To the members of the Board, I extend by grateful acknowledgements for their great kindness and courtesy to me as Chairman. I desire to express my sincere admiration of the faithfulness and energy with which they have fulfilled all their responsible duties. I wish also to express my appreciation of the satisfactory way in which the work of the Board's office has been performed by the Clerk and his assistant.

With renewed thanks for the hearty co-operation which the Board has always received at your hands, Mr. Mayor and gentlemen of the Council, I have the honor to be,

Respectfully yours,

HENRY MELVILLE CURTIS,

Chairman.

REPORT OF THE PRESIDENT

CINCINNATI, O., December 23, 1908.

To the Chairman and Board of Directors of the University of Cincinnati:

GENTLEMEN—In accordance with the requirements of the by-laws, I have the honor to submit this report on the condition of the University. Attached thereto are the reports of the deans and heads of departments and the customary statistical statements.

CITY UNIVERSITIES.

After five years' work here, I am better convinced than ever that, as we have State universities supported by the public, so, in time, there will be many city universities like ours, similarly supported. It is evident that with the increase of their populations all the large cities must have universities under some auspices. Those having no private institutions will, I think, establish colleges or universities in connection with their public educational systems.

The endowed universities have done and are still doing much for the cause of higher education in this country, but in the end the people must educate themselves from kindergarten to professional schools. Every year teaches us better that we can not depend upon the rich to educate all the poor as they should be educated. Universities controlled by churches through the influence of the Carnegie Foundation are fast becoming things of the past. The church colleges were originally established as a means of propaganda for some particular religious faith. It is entirely proper that parents should desire to educate their sons and daughters in their own religious faith, and in this country people have

the right to unite in building institutions for any ligitimate purpose. Some of the colleges for the youth will doubtless continue to be conducted by the different religious sects, but universities for the higher professional education should be built on broader foundations and free from sectarian control. The only way to provide equality of opportunity in the highest, as well as in the lowest, education is for all the people to tax themselves for the support of all the educational institutions which they shall then control.

Since the application of science to governmental and industrial life has become so extensive, it is necessary to educate many more men for the service of the public in an increasing number of new professions. Fifty years ago the "learned professions" could be counted on the fingers of one hand; now there are scores of them, all requiring professionally trained men. In the development of the public schools, the demand was first for elementary schools, giving training in the "Three R's;" next for high schools, "the people's colleges," to train young people for citizenship; then came the demand for normal schools to train teachers for the lower schools; and then for colleges to train for the higher callings of life; and now, finally, comes this demand for institutions to educate for the higher scientific, technical and social professions. If it is right to educate children in the elementary schools at public expense, so it is right to train for these higher professions all those who show themselves fit to serve their fellows. As there is no limit to the educational process in the man, so there can be no limit to the institutions of education in the State. Progressive development is the law of life, and we can not escape from it in our social institutions any more than we can in our industrial. The effort was made successively to fix the limit to public education at each of the stages mentioned above. Men sought first to limit free, public education to the "Three R's," then, after a hard fight, the limit was lifted to the end of the high school course; then it was extended to include the State college; and now we agree that, as the State must have teachers, publicists, engineers, physicians and investigators in science, they also must be trained at the public cost. To exclude the poor from the opportunities of this highest education, or to educate them only at the bounty of the wealthy, is repugnant to our democratic

ideals. It is well enough for wealthy, private institutions to give their scholarships and fellowships to promising, poor scholars, who otherwise could not meet their high tuition fees and heavy expenses, but it is more American to provide the means of instruction and investigation at the public expense, as the Western universities do, and let all the qualified use them equally. If equality of opportunity is the principle of our American institutions, as we claim, then opportunity must be provided for the poor, as well as for the rich, to get the higher, as well as the lower, education. The young American does not want the means of education as a largess from some millionaire's estate, or from some endowed institution, but as his own right as a citizen of the State, qualified to serve it.

Our American cities are still the crudest, rawest, and most incomplete and unsatisfactory institutions in the democracy. This is largely because Americans did not seriously take up this problem until recently. Our pioneer fathers, in their struggle to conquer a new continent, developed individualism to a point that has made it very difficult for their children to co-operate in the methods which must be followed in a city if people are to live together intelligently, healthfully, morally, and happily. The citizenship of our towns, made up chiefly of country people trained to these intense individualistic ways, is naturally opposed, thus, to all collectivistic plans of working and living, with the result that it has taken them several generations to find out that the methods of the pioneer, who had all by himself to establish a home for his family in the forest or on the prairie, would not apply in the town. All our political principles and laws were made to fit these pioneer or rural conditions. In the Middle and Western States the majority of our city voters are still country-bred people. We have very few experienced city residents and no trained leaders in municipal affairs. In fact, to a great extent our cities are, through the Legislatures, directly governed today by the rural districts in accordance with the individualistic ideals and principles of country people. The people of the cities are only beginning to assert themselves and to contend for home government. The only way they will ever succeed in solving their own problems is through the education of their whole citizenship in accordance with the necessities of city, as opposed to country, life. To do this we must

build city colleges to train men to study city problems and do the city's work. To this end the city university should thus be the head of the city's entire intellectual, scientific, industrial, and social life. As the brain commands and ministers to all the organs of the body, so the city college should supply the needed direction to all parts of the body politic, industrial, and social. The only way for the city university to get support and to grow is to serve the people in all their interests.

Unification and Correlation.

It is encouraging to record the progress made towards the unification and perfection of the organization of the University itself and the strengthening of its relations with the other schools of the city and vicinity. Five years ago the academic department in Burnet Woods was a single loose organization of the literary, scientific, and engineering schools. There was nominally a college of engineering, but it had no separate faculty or organization of any kind. Separate faculties have now been organized, not only for the College of Engineering, but also for the College for Teachers and the Graduate School, and a dean appointed to look after each of them. Regular faculty meetings are now held in all these colleges and all their business is done in a systematic manner.

Under the authority of the statute authorizing the Board of Directors "to delegate and commit the admission, government, management, and control of the students, courses of studies, discipline, and other internal affairs of the University" to a body appointed by it, the Board organized the University Senate, which has "charge of all matters of general interest to the several colleges and the Graduate School and such other matters of general policy as may be referred to it by the Board or the President." The Senate is now fully at work and has been most helpful in unifying the different colleges, in determining the general policies of the University, and in making plans for its development.

The correlation of the different colleges in the University has been largely perfected. The Colleges of Liberal Arts and Engineering, for Teachers, and the Graduate School, are, of course, intimately connected. In fact the faculty of the College of Liberal Arts supplies much of the instruction for these other colleges.

The arrangement is highly economical, though it causes the College of Liberal Arts to appear on the books as a comparatively very expensive institution. For example, if a College for Teachers, separate from the University, were established in Cincinnati, the city would have to spend at least $50,000 a year for the instruction now supplied by the College of Liberal Arts. The same is true of the College of Engineering, which utilizes the instructional staff of the College of Liberal Arts to the extent of fully one-half of its work.

Through the Senate new plans are constantly being developed for correlating the work of these colleges. A pre-medical course of three years, which will enable a student to get a bachelor's and a medical degree in seven years instead of eight, is another example. The work of the first year of the law course is recognized by the College of Liberal Arts in a manner which enables a student to complete his entire course of liberal and legal training in six years. A system of intercollegiate debates and of athletics has been organized with good results.

The most important event of the year, however, has been the practical completion of the negotiations between the medical colleges, which, as soon as the legal papers are drawn, will result in bringing them into the University as a single, integral college. The negotiations have so far progressed that we can confidently announce that a new faculty will be organized and a new, united college opened in the autumn of 1909.

The interesting event of the Commencement was the celebration of the seventy-fifth anniversary of the Law College, which served to call attention to that noble institution, the successor of the old Cincinnati College, chartered in 1819, as well as of the Cincinnati Law School, established in 1833. The present vitality of this college is best attested by the fact that it is constantly adding to its course and strengthening its faculty.

The correlation of the University and the high schools has now been made as perfect as possible under present conditions. The Director of School Affiliation gives careful attention to this business. As Professor of Secondary Education in the Teachers' College, this officer is able to assist the principals and teachers of the schools in many ways. He was also made this year inspector of the teachers and the work of the city high schools for the Sup-

erintendent and Board of Education. This arrangement makes perfect connection between the University and the high schools of the city and vicinity, and gives us added influence and opportunity for service. Educational authorities have described this system of correlation with the city schools as the most perfect known anywhere. It is especially gratifying that our relations with the high schools of the city and vicinity and their principals and teachers are of a friendly and helpful character.

Plans were early formed for a progressive advance of the standard of admission to the colleges, following closely upon the improvements planned for the high school course. These have now been fully worked out, with the result that we have a uniform standard of sixteen units equal to that of the best universities in the country. A system of certification and examination for admission to the colleges of the University to enforce this standard has also been completed. The effect of this advance of standard was to reduce the number of students at first, though the increased attractions of the University have now largely overcome this loss. Only the graduates of high schools having distinguished grades get unconditioned admission to the colleges. But the advancement of the standard has greatly stimulated the character of the work in the high schools and is giving us much better students.

When we recall that in recent years the University has been going through a period of reorganization and had first to make its reputation before it could attract students, it will be seen that the attendance on all the colleges is very encouraging. The consantly changing conditions in the past militated greatly against progress and against making an established reputation. All that the University of Cincinnati wanted was stability of policy and good work for a term of years. This has been the condition during the last five years, and the results are beginning to appear in the loyal support of the people and the increase in the number and the improvement in the quality of the students. In spite of another advance in the standard of admission, the attendance upon the colleges in Burnet Woods during 1907-08 reached a total, after eliminating all duplicates, of over a thousand students. Already in the current term of the session of 1908-09 the attendance has reached eleven hundred, with the ex-

pectation of a continued increase during the year. Meanwhile, the attendance upon the professional colleges has remained about the same. The attendance upon the Engineering College is strictly limited by the size of our lecture-rooms and laboratories. We might have admitted four times as many students this autumn had room and instructors been available. It is sincerely hoped, therefore, that this harsh condition will be removed before the opening of another session by the completion and equipment of the present Technical School building, and that before the end of another year a new Engineering College building may be erected.

Graduate School.

The large number of graduate students, ninety-two so far this year, from our own and neighboring colleges is significant. About half of the students in this school at present are teachers or persons preparing to teach or to engage in higher professional work of one kind or another in our own city; the other half are drawn from the neighboring colleges. This shows more clearly than anything else could that there is a distinct demand here in Cincinnati for a Graduate School of high rank. When we have three or four times as many students in our own colleges, as we certainly shall in a very few years if the facilities are provided in the high schools, the Graduate School will be proportionately increased.

Under the statutes establishing the University it is made as much our duty to provide graduate and professional education as to provide collegiate education. The McMicken College of Liberal Arts is not the only institution we are charged with. Section 4102 of the code defines our University as follows: "An assemblage of colleges united under one organization or management, affording instruction in the arts, sciences, and the learned professions, and conferring degrees." The University is authorized to "confer such degrees and honors as are customary in universities and colleges in the United States, and such others as, with reference to the courses of study and attainments of the graduates in special departments, it may deem proper."

The University of Cincinnati is made by the statutes of Ohio a true university composed of co-ordinate colleges with equal

standing and rights to city support, and is not a mere college of arts. Graduate and professional departments are expressly authorized by the law. The only thing that is excluded is high school work, such as that formerly given in the Technical School. Under the statute which is our charter, it is as much our duty to maintain a Teachers' College, an Engineering College, and a Medical College, as to maintain a Liberal Arts College. Still, it is sound business policy to undertake to do only what we can do well. The Engineering College, the Teachers' College, and the Graduate School have grown naturally out of the Liberal Arts College, showing that they were called for by the interests of Cincinnati. The Liberal Arts College could not today by any means do all of the work Cincinnati demands of its University.

Moreover it is fully recognized now that good instruction in arts and sciences can only be maintained where the teachers are encouraged to conduct higher studies and research. In his address on "The American College and Life," before the American Association for the Advancement of Science at the Baltimore meeting, Josiah Royce, the professor of philosophy at Harvard, said: "In any case let us beware of those theorists who, in the name of what they call the American college, want to sunder afresh what the whole course of our modern American development has wisely tended to join, namely, teaching and investigation, the more technical training and the more general cultivation of our youth, as well as the graduate and the undergraduate types of study. I should abhor the name college if this mere name ever led us into such a backward course as some are now advocating."

The best professors wish to do this work, and, if you do not let them do it, they will go to other universities or else become mere dull, routine teachers. The experience of the academic world is that research and teaching must go together.

In accordance with this universally accepted principle, our professors have been encouraged to do a certain amount of advanced teaching and investigation, in order to stimulate and interest them. It is their very breath of life. The intercourse with small classes, even of one or two, is a great stimulus to advanced study. All universities everywhere, therefore, encourage a certain amount of this work by their professors as a

means of keeping them up to the highest point of scholarship and efficiency.

The student is not the only unit of consideration in estimating the efficiency of an educational institution. It is not the number of students, and certainly not the cost per hour of teaching a student, which is the test of efficiency of a faculty. I hold that the teacher, and not the student, is the unit of primary consideration in determining the nature of the work done. The teacher is the source of energy and life, and the pupil will get no knowledge or power unless the teacher has it in him. In other words, the chief test of the excellence of a college is the wisdom and power of the teaching force, individually and collectively, in connection with the laboratories, libraries, and other things which contribute to the teacher's success in his special work. If this be true, each instructor should be considered, not merely at his initial knowledge and power, acquired while he was in college or university before he came to the institution, but in connection with the opportunities and facilities for him to keep up his scholarship and working ability. A great college president (Canfield) has said: "There is no profession in which a man goes stale more quickly or more easily than in teaching. Positive teaching power is the one thing needful, the one imperative demand, and in the end must be the one standard of recognition and advancement. Conscientious class-room work is impossible unless quickened and enlightened by continued efforts of self-improvement, which keep a man fresh and effective as a teacher." We should do this by encouraging our professors to study, to go abroad, to visit other institutions, but especially by giving them time to study at home with graduate classes. Experience shows that the best way to induce a professor to do this is to let him select a subject in which he wishes to study and have a few advanced students work with him.

The business or factory method does not apply here. In business it is the net result, the finished product, which is held constantly in view. In college we dare not place too much emphasis on the amount of the output per hour or man, for a man is not a dead machine, but a living soul, who must be himself constantly nourished, strengthened, and encouraged, to keep him up to his highest capacity of intellectual and spiritual work. It

is just another illustration of the fact that it is impossible to measure mental and spiritual results in time or money.

Every one of our professors is doing a great deal for the city outside of his class-room work. The ideal of a municipal university is an institution which shall serve the whole community, especially the city in its organized service to its citizens, and our professors are all doing much work for Cincinnati which can not be measured in hours or estimated in money.

It is true that if high-class college and graduate instruction is given, the cost per student instructed rises rapidly in proportion as the candidates for such instruction diminish in number. In this connection several things must be considered:

(1) The policy of this University to afford this higher college and graduate instruction is not of recent date. As early as 1900 the nucleus of the present faculty was assembled in Cincinnati with the distinct pledge from the President and Directors that such instruction would form an important part of the University's activity. These able scholars would not have taken positions here under other circumstances. To reverse this policy now, would be a breach of faith with them. A series of directorates, including men prominent in the intellectual and business life of Cincinnati, and two Presidents of the University, have ratified this policy and labored to carry it out. It has thus become the established policy of the University, and the attendance upon the Graduate School and the special lectures certainly approves it.

The particular questions arising in this connection are:

(a) Would it be possible to hold our excellent faculty if we limit ourselves to elementary college instruction? I think not.

(b) Would the people of Cincinnati and community approve of a low class curriculum and such a consequent degeneration of the faculty? Assuredly not.

(c) Is the present Board willing to incur the responsibility for such a change? I believe not.

It is very easy to compute the cost of instruction per student-hour and thence to advance to an *a priori* conclusion that the best expenditure of public money is that represented by the lowest student-hour cost; but this, like much reasoning by analogy to other forms of production, is faulty, in that it fails to encompass the main facts in the case. Education is the creation of a social

utility, and social utility is not so easily measured by mechanical processes. The analogy fails. Nor is this a mere statement of theory. Why is it, if the process of college instruction is capable of being worked out in a manner similar to the cost of the production of nails, that in one of the foremost universities in one of the most intelligent and progressive commonwealths of this country—in a word, in the University of Wisconsin, an institution supported exclusively by public money—it is seen fit, as a matter of public utility, to pay salaries considerably in excess of the amount of our maximum salaries to two heads of departments who instruct small groups of graduate students for a period of only one-half year, when with the same expenditure at least two thousand students could be instructed on a basis of the minimum cost per student-hour? Either this is folly, or in Wisconsin the interpretation of social utility in education embraces other elements than are included in the mechanical estimate. This is only one of a number of similar instances in the expenditure of public moneys for higher education and research. The splendid success of such great State universities as Wisconsin and the magnificent support given them by the people of their States show that the time has long passed when the American people will agree to limit their colleges to mere undergraduate work. In fact, it is this higher service of the people of their States by the professors in the graduate schools and the investigators in the laboratories which has, more than anything else, drawn out the support of great States like Wisconsin. The education of college boys and girls, as important as it is, would never by itself have developed the devotion of the people to the University of Wisconsin that has been aroused by the service of its college of agriculture to the farmers, of its department of political science to the Legislature, and of the college of engineering to the industries of the State. Without men competent to conduct the higher studies and to make scientific investigations none of this would have been possible.

Gifts.

Perhaps the most precious gifts that have ever come to the University are, by reason of the associations and memories they perpetuate, the bequest of Professor Edward Miles Brown of $1,270 to establish a prize for excellence in study in the English

department and of Mrs. Brown of her husband's valuable philological library. For more than sixteen years the University of Cincinnati reaped the benefit of Professor Brown's scholarship and experience as a teacher, and for years to come the institution will feel the touch of his shaping hand in her liberal arts and graduate courses. No man was ever more beloved by colleagues and students, and the University is most happy to receive these gifts, which will help to make his life and service, so dear to the living, better known to those who follow us here in the years to come.

Mr. John Kilgour, donor of the original site of the Astronomical Observatory and fast friend of the University, has just notified the Board of his purpose to give the University certain land, adjacent to the present Observatory grounds, containing between eight and ten acres. This land is beautifully located and is much needed for the extension and protection of this great historic institution, of which Cincinnati is so proud.

The Board of Directors has received the various pieces of property, real estate, and securities (to a value of $100,000 approximately, not all now productive), constituting the bequest of Misses Mary Pickman and Eliza Orne Ropes for the purpose of establishing a department of the comparative study of literature in the University. The Board has accordingly established the Nathaniel Ropes Chair for the Comparative Study of Literature and the work of the department is to be inaugurated this year by a course of lectures given by distinguished scholars from universities in our own country and Germany. This course was opened by a suitable celebration on University Day, November 12th, when the inaugural lecture on the foundation was given by Professor Alcée Fortier, Litt. D., of Tulane University. A list of the eminent scholars who follow Professor Fortier are given in another place. The course promises to be one of great interest and power.

On the authority of the Carnegie Foundation for the Advancement of Teaching the President was permitted to announce at Commencement this year that the application of the University of Cincinnati, to be enrolled as one of the institutions whose professors and officers would receive the benefits of that Foundation, had been approved, subject to the formal concurrence of the Mayor and Council of Cincinnati. This concurrence was expressed by

a resolution of Council approved by the Mayor, and the University was then formally accepted by the Trustees of the Foundation. This institution was the first public-supported institution to be so enrolled. The Foundation had previously approved the standards of the University and had granted retiring allowances to three eminent professors who had served it long and faithfully. Through this act the University of Cincinnati secures the permanent right to a share in the proceeds of this fund, which is believed to be the most far-sighted and wisest of all the gifts of Andrew Carnegie, the great benefactor of science and education.

The Technical School.

In conformity with the agreement under which it was taken over by the University, the Technical School will, by order of the Board, be closed at the end of the current session.

The Technical School was never a part of the University and under the laws it could not be. It was always managed as an entirely separate school with a separate corps of teachers, paid from separate funds. The statutes, in fact, as explained above, expressly forbid the University from using its funds for instruction of secondary or high school grade (Section 4104). The high school may not do college work and the college or university may not do high school work. A university as a university can not even accept estates or trust funds for the promotion of education "other than university as defined by this Act," but property or funds for the promotion of secondary and high school education "shall be committed to and exercised by the board of education of the school district including such municipality" (Section 4105). It is doubtful, therefore, whether the University should ever have taken over a private, secondary school like this Technical School. It did so, however, at the request of an association of patriotic citizens, who first established the Technical School in the Music Hall building and afterwards erected and equipped a building for it on the University grounds.

The school was accepted with a small amount in annual subscriptions covering a few years, which, with the tuitions, was supposed to pay its expenses. The subscription fund was soon used up, however, and it was found impossible to raise more. Having turned the school over to the University, its friends soon forgot it.

When, in 1906, the Board of Education declared its policy of putting manual training in the high schools and of building two great new schools to give free instruction in manual and technical arts, it became apparent that the Technical School, now entirely dependent on tuitions, would have to close down in a few years. It had been received by the Board on condition that it should be closed whenever the city provided instruction in manual training. I recommended accordingly that steps be taken looking either to the immediate transfer of this school to the Board of Education for combination with one of the manual training high schools; or, if this could not be done, to the gradual advancement of its work and the transformation of the school into a department of the Engineering College, which, under the law, could be supported by the University. The first plan was tried and fell through. The second plan was approved by the Board and will, at the end of this session, have been carried out. The plan in brief, was to elevate the work of the Technical School to college grade and to make it a part of the Engineering College under the new plan of Co-operative education, and then to turn over all the high school work to the city high schools, where the laws put it. This was carried out by cutting off the classes of the Technical School one at a time, beginning at the bottom, and declining to receive any new pupils of secondary grade. All students previously entered were to be carried through to graduation.

This plan will be fully carried out by the close of the current year and the last class of the Technical School graduated. The school, owing to the lack of endowment and the failure of subscriptions, has been for a number of years a considerable burden upon the officers of the University, but in view of the results accomplished, especially in the Engineering Co-operative Course, it was well worth carrying. The public-spirited citizens who established the school and the Directors and officers of the University who have carried it on for eight years are entitled to the gratitude of the community.

A new department of political science was opened this fall with Professor Robert Clarkson Brooks in charge. In addition to conducting the instruction and investigation of the department, Professor Brooks has interesting plans for promoting the study of the municipal affairs and social conditions in this community.

The External classes have continued to grow and have become a permanent feature of our service to the people. The courses given should be increased and extended to other sections of the city.

The work of the Teachers College has, as explained at length in the report of the Dean, awakened among the teachers of the public and private schools in this city and vicinity, a great desire for improvement. We are doing everything we can at present to supply their demands for instruction through afternoon, evening, and Saturday classes. There has always existed here a strong demand for a summer school, which this great interest of the teachers has increased until it has now become a live question. Summer courses are already given in the Engineering College and in the Law College; summer courses in the Teachers College would undoubtedly be largely attended and very useful. It is hoped that the way may be opened at an early time for a summer school of at least six weeks.

The successful work of the night high schools brings up the question of night classes at the University to enable this interesting class of students to continue their studies in collegiate subjects. We have now two night high schools offering evening classes in all the ordinary academic and a large variety of commercial and industrial branches. They have an average of twenty-four teachers and an enrollment of over a thousand students, with an average attendance last year of 665. With the completion of the two great new high schools, it is understood that the facilities for night work of high school grade will be greatly increased, and it is expected, therefore, that the attendance upon these classes will be correspondingly larger. Outside of the night high school graduates, there is a demand also from clerks, mechanics, and other young men and women for instruction of collegiate grade. That the University will find it its duty at an early date to take up the matter of night classes in college subjects is evident. It is just as much a duty, and an even greater privilege, to provide instruction for young people who have to work during the day as for those who are able to give all their time to a college course. This problem will be carefully investigated and it is hoped that at an early time we shall be prepared to make definite suggestions with regard to the best method of solving it.

For these new enterprises, which are being so urgently pressed upon us, the University will need a considerably larger income. It will also be necessary for us to provide better salaries for our professors and instructors. Our present salaries are considerably lower than those paid in institutions of our class located in cities of equal size. For these and other uses well known to you, I ask your earnest attention to the question of securing increased revenues for the University.

Buildings Needed.

I must again call your attention to the need of more and better buildings and equipments. In the thirty-seven years since its founding, the City of Cincinnati has built for its University but two buildings, costing $175,000. Only one of the present buildings in Burnet Woods—the McMicken Hall—was erected with city funds ten years ago. The buildings then erected for a single college of about three hundred students now have to accommodate three colleges and a Graduate School. These buildings cost, without equipment, about $350,000. They are entirely inadequate for the needs of these colleges and the eleven hundred students who frequent them each week. Neither in character nor in cost are they equal to the city's best public school buildings. The high school building, for example, now being erected opposite the University will cost, without its equipment, more than twice as much as all the University buildings together.

After canvassing the needs of the institution for many months, the Senate of the University has decided that the following improvements are absolutely necessary to enable it to meet the present demands upon it and to have an opportunity to grow:

An Engineering building.
A Medical College building.
A Gymnasium.
A Dormitory.
A Heat, Light, and Power Plant.

The Engineering annex, the former Technical School building, should be completed and the assembly hall should be rebuilt or enlarged.

The Engineering College is operating, as is well known, two courses of study: one, the regular four-year college course, and the other, the so-called Co-operative Course, in which young men are trained by working alternate weeks in the college and selected factories in our vicinity. The attendance upon the regular course has grown, and, if it were the only course followed, the college would require better buildings and equipment. The Co-operative Course is now an established success, however, and since it is training experts for service in our local industries it appeals especially to the people of our city. The Engineering College has had this year to refuse three out of every four students applying for admission to the Co-operative Course. At least six hundred students could be enrolled in this course within two years if the facilities were provided.

Two new manual training high schools will be organized to prepare boys for this college, and hundreds are seeking admission from our vicinity. Nothing appears to be more needed by our young men and nothing that we know of would build up Cincinnati's industries more rapidly than a great Engineering College.

The need for a suitable Engineering building and equipment is, therefore, too plain to require an extended argument.

The Teachers College with its two hundred students is crowded into McMicken Hall together with the College of Liberal Arts and the Graduate School, which has one hundred students more. The University has no assembly hall which will hold more than one-half of its students at one time. The erection of an Engineering College will permit these colleges to expand into Hanna Hall, but a new assembly hall should be erected either separately or in connection with McMicken Hall.

Cincinnati is now rebuilding and enlarging her public school system to double of its capacity. Our high school capacity is only about one-half what it should be, compared with other cities. This deficiency will be removed by the two great new high schools now being erected at a cost of one and one-half million dollars. In anticipation of these enlargements five hundred more students have already been enrolled in the high schools this year. When the new buildings are completed, our city should have at least five thousand students in her high schools. We shall then be graduating from the high schools six hundred students a year against two

hundred and eighty-eight this year. This means that attendance on the University from Cincinnati alone will be doubled, and this without considering any increase in the Engineering College, the Teachers College, and other professional schools, which are growing rapidly. It is evident, therefore, that, if the University is to do any measure of the work demanded of it, it should begin at once to prepare for the increased attendance of the future.

The proposition to build a new City Hospital and the union of the medical colleges make it desirable and almost necessary to prepare at once to build a new Medical College. The system of medical education has been entirely changed in recent years, with the result that no medical college can now attract students unless it is properly supplied with laboratories and professional teachers. Now that the two leading medical colleges of the city have been united in the University, it is important to erect a suitable college building and equip it in accordance with the new pan of medical education. Only by providing such a college along side of her great new hospital, can Cincinnati regain her old position as the center of medical education in the Middle West. In the past our young physicians were educated in colleges taught by the older physicians without compensation. The physicians and surgeons in our hospitals and medical colleges give from one-fourth to one-half of their time to the service of the poor. No professional men do so much gratuitous work as do physicians. Teachers, preachers, and lawyers are paid for their service to the public, while physicians are called upon to do all the work of the public hospitals, boards of health, etc., entirely without compensation. Why should they, in addition to this, be called upon to educate free of charge, their successors in public service? We do not ask teachers, preachers, and lawyers to do this; then why require physicians to do it? The Medical College should be supported by the public, just as are the Colleges for Teachers and Engineers. The new hospital will furnish large facilities for the Medical College. The college building asked for is needed to complete the equipment of an institution which will then be equal to the best in our country.

A dormitory is urgently needed as the center of student life and for the accommodation of the increasing number of those who come from a distance or who desire to live at the University.

The University has at present three hundred and sixty-eight students from outside of the city. The will of Charles McMicken establishing the institution directs the erection of "boarding houses for the accommodation of students," and in accepting the trust the city bound itself to provide them. Universities have, from the earliest days, sought to encourage the entrance of foreign students and cities have greatly benefited by this policy, which brings choicest young men to dwell among them. Cincinnati owes a duty to the people of its contributing commercial territory, and nothing would do more to build up its trade than a policy which would attract to Cincinnati the leading young men from this territory for purposes of education. Such persons would be our friends for life. Dormitories will also help to develop that college spirit which, above all, fastens the later attention of the alumnus upon the institution of which he is a graduate. The dormitory is the home of the student and fosters his loyalty and devotion as nothing else can do. It is an actual fact that the section of the city in the neighborhood of the University furnishes few quarters for students.

The University has no gymnasium worthy the name. It uses for this purpose an ill-ventilated basement room. The arrangements for physical education are among the poorest to be found in the city. A separate gymnasium building should be erected and furnished and the athletic field completed. The gymnasium building should also contain study-rooms for students who have to spend the day at the University and rooms for their societies. Under present conditions no accommodations whatever are available for these purposes.

The erection of dormitories and a gymnasium and the building up of a more cosmopolitan student body, the advent of young men from widely differing sections of the country with different habits of thought, would contribute to broadening the views and sympathies of our home students, preventing a certain inbreeding of local prejudices, and thus providing our young people with educational facilities in the wider sense of the term. The absence here of almost everything that pertains to college life, traceable particularly to a lack of dormitories and of a gymnasium, leads many students from our city to go to other institutions, to the pecuniary loss of their parents. As a matter of fact, we al-

ready have several hundred students from a distance, and it is our duty to provide them with comfortable homes. It is especially unfortunate that our professional students, law, medical, and engineering, now live wholly outside of University influence. The Co-operative Engineering students, of whom more than one-half come from the outside, find great difficulty in securing suitable and economical homes. Dormitories will, thus, be a necessary condition for the development of all these professional colleges.

These new buildings will make it necessary, of course, to increase the heating, lighting, and power facilities. A new heat, light, and power plant is, therefore, a necessity.

A General Building Plan.

Before beginning to rebuild the University, as this means, a general building and landscape plan should be prepared once for all, so as to prevent indiscriminate and inartistic building in the future. Its importance at this time, when we are about to begin to build the real University upon the new site, is apparent. The systematic improvement of the grounds of the University should also be carried out in accordance with the beautiful plans of the Park Commission, and this can not be done in the haphazard way pursued in the past.

In view of our extensive needs and of the peculiar topographical conditions on our grounds, I earnestly recommend that the best available architect, preferably one having had special experience in university work, be engaged to prepare a permanent location plan for the buildings likely to be needed by the University for at least fifty years to come, including a general plan for improving the grounds.

The college building problem, including as it does the consideration of the relations of departments of study and the peculiar needs of the social organization, as well as the construction of lecture halls, laboratories, and residence houses, is a special one, and, therefore, requires a man familiar with the conditions and requirements of university work. Many of the great universities have recently employed architects to make new group and build-

ing plans so that men of this type are available at present. In order that we may utilize our limited territory to the best advanage and bring about an aesthetic grouping of the buildings, it is important that we should have such a group plan made before beginning any work whatsoever. We believe that a moderate amount expended in this preliminary way for a group plan will likely save the University a large sum of money in the future. As soon as this is done the plans for new buildings may be taken up by regular architects.

The groups of buildings for which suitable locations should be provided in this building plan are, in the opinion of the Senate Committee, the following. The suggestions made as to the locations of these buildings are those agreed upon by our faculties:

At least one large building should be erected immediately for the Engineering College. The Engineering group should be located on the ridge northeast of the present chemical laboratory.

In the center of the grounds, facing Clifton avenue, stands the present group, made up of McMicken in the center, Hanna Hall and the Chemical Laboratory annex at the north, and Cunningham Hall at the south, with the Engineering annex in the rear.

Next south stands the present Library building, which should be enlarged in the rear for library stacks and on either side for class and seminary rooms for the Graduate School.

A large Auditorium or Assembly Hall is an absolute necessity, as we have no hall at present which will contain more than one-half of our students. It is a question whether it would be best to rebuild upon the site of the present Auditorium in the rear of McMicken Hall or to erect a separate building either on the northwest corner of the grounds, fronting Clifton avenue, or on the southwest corner, opposite the new Hughes High School building. We advise a separate, fire-proof building.

A building for the College for Teachers will be needed in a few years and should be located either on the corner of Calhoun and McMillan streets, opposite the high school just referred to, or on the Calhoun-street front.

Buildings should be located also for a Natural History Museum and the earth sciences, geology, mineralogy, etc. Perhaps

these can be accommodated in one building, which should be located either on the hill slope in the rear of the Library, or somewhere fronting on Calhoun street.

A site should be provided either on the Calhoun-street front or just north of the present buildings for the Law College, and also for a College of Commerce, which will doubtless be established in the near future.

The location of the new City Hospital northeast of the University on Burnet avenue makes it desirable that the Medical College be located on the hill northeast of the chemical laboratory near the University-avenue entrance. It appears to be agreed that this hill must be divided between the Engineering College and related buildings and the Medical College and connected departments of biology, zoology, botany, and chemistry, which will soon require a much larger laboratory.

A Gymnasium building should be located at the south end of the ground already laid out for the athletic field, and the hill forming the southeast corner of our grounds should be reserved for the Dormitory group. Between this and the Library is a deep depression which suggests at once an open air theatre in the Greek style, with a series of gardens extending northeastward to the athletic grounds. The proper location for the power plant is, of course, at the lowest point on the grounds north of the athletic field. Around it should be grouped a Superintendent of Buildings and Grounds house, a gardner's house, green-houses, stables, tool-houses, etc.

Provision should be made also on the plan for a new physical laboratory, located, preferably, south of the Library or the present Engineering annex, and for a Students' Club house, to be a social center for all our students, located somewhere near the center of the grounds.

That the list of buildings asked for now, is a long one is due to the fact that until recently there was no means of providing improvements for the University. The special act authorizing the issue of bonds by the city for the erection of McMicken Hall was limited in amount and is now dead. All the properties belonging to the University are tied up by the conditions of the special bequests and can not be sold. The University has grown so rapidly that its small income from endowments and taxation

has been consumed entirely in paying the current expenses of instruction.

The New Law for University Buildings.

At the request of the Board of Directors, the last Legislature passed unanimously an act authorizing "municipal corporations to issue bonds for constructing additional buildings for municipal universities."* The bill for this act received the hearty support of the Hamilton County delegation and it was carefully matured by the aid of the committees of the two houses. I wish to take this opportunity to return our grateful acknowledgments to these gentlemen for their kind attention to the interests of the University and their assistance in maturing this new and important piece of legislation.

The act referred to authorizes the Mayor and Council, upon the request of the Board of Directors, to issue bonds in any amount at any time for the completion and equipment of the old or the erection and equipment of new buildings for the University. It is independent of the so-called Longworth Act and the issues made under it are outside the limit fixed in that act for ordinary city purposes. The issue requested by the Board must be authorized by an ordinance of Council approved by the Mayor; it does not require a vote of the people. For the first time since the founding of the University, the city is thus in position to provide for it the necessary buildings and equipment.

Precedent for this act is found in the issue of bonds in 1898 for the erection of McMicken Hall. As a municipal institution, the University has the same right as the schools or other departments of the city to use the city's funds for these purposes. The total tax for interest and sinking fund on account of $1,000,000, the probable cost of these improvements, in forty-year four per cent bonds, will be only $51,830, or about two-tenths of a mill on the present tax duplicate, an almost inappreciable amount, especially after the expected large increase in the tax duplicate of 1911. Certainly this is a small amount to ask the people to give annually for the equipment of a university for the higher education of their own sons and daughters and for the training of

* A copy of this act is appended to this report.

teachers, engineers, physicians, and other experts for public service.

In 1890 the city gave the University forty-three acres in the south end of Burnet Woods Park as a permanent site. In an action taken to decide the uses to which this ground could be put (See court decisions, Common Pleas, No. 132,260, and Circuit Court, No. 4213), the courts declared that the Directors of the University "must here erect all buildings suitable and necessary to carry on the University. What buildings are suitable and necessary must be determined by the needs and circumstances that exist at the time." What these needs and circumstances are we have here stated.

Ten years have passed since the present buildings were erected and no additions have been made thereto. In short, Cincinnati has reached the point where she must either erect sufficient buildings for her University or close it. The latter alternative is impossible. Having set aside a magnificent site, organized five great colleges, and called together thirteen hundred students, Cincinnati will undoubtedly without further delay build her greater University.

Respectfully submitted,

CHARLES WM. DABNEY,
President.

(Senate Bill No. 316)

AN ACT

To authorize municipal corporations to issue bonds for constructing additional buildings for municipal universities.

Be it Enacted by the General Assembly of the State of Ohio:

SECTION 1. That any municipal corporation having, or which may have, a university supported in whole or in part by municipal taxation, is hereby authorized to issue bonds for the erection of additional buildings or the completion of buildings not completed, for such municipal university, and for the equipment thereof.

SECTION 2. That such bonds may be issued under ordinance of council of such municipality with the approval of the Mayor, and only upon the receipt of a certified resolution from the Board of Directors of such university of the necessity of such issue. Such resolution and ordinance shall specify the amount of such issue, the denomination of the bonds, their rate of interest, their dates, and the times of their maturity.

SECTION 3. That the bonds so issued shall be sold according to the provisions of law for the sale of municipal bonds, and the proceeds thereof, excepting the premiums and accrued interest, shall be placed in the treasury of such municipality and be used only for the purpose of erecting or completing and equipping such additional buildings as may have been specified in the resolution and ordinance calling for their issue. In the use of such fund for said purpose, all power and control shall be vested in the Board of Directors of the municipal university, which Board shall make any and all contracts necessary for the erection or completion of the buildings specified, and the equipment thereof; shall supervise their erection, completion, and equipment, and shall issue proper vouchers for the payment out of said fund of moneys due under such contracts, and for any and all other expenses connected with the erection, completion, and equipment of

said buildings. The amount of premium and accrued interest arising from the sale of said bonds shall be paid into the Sinking Fund.

SECTION 4. That the Trustees of the Sinking Fund of any municipality issuing bonds under the authority of this act shall levy annually a tax sufficient to pay the interest, and to provide a sinking fund for the final redemption of said bonds at maturity.

JOSEPH D. CHAMBERLIN,
Speaker pro tem. of the House of Representatives.

JAMES M. WILLIAMS,
President of the Senate.

Passed April 21, 1908.
Approved April 22, 1908.

ANDREW L. HARRIS, *Governor.*

UNIVERSITY OF CINCINNATI.*

GROWTH AND PROGRESS, 1904-1908

PROPERTY.

Grounds and Buildings.

The University owns forty-three acres in Burnet Woods, the geographical center of Cincinnati, with five buildings thereon, and medical and law buildings in the business part of the city. The total value of these non-interest bearing properties is not accurately known, but far exceeds $1,000,000.

Productive Endowments.

(Securities given at face value; real estate, some of which is unproductive, and much of it old, capitalized at 4 per cent. Browne realty, entirely unproductive, not included).

1904	$ 813,686 00
1905	865,818 00
1906	917,778 00
1907 (including the Ropes bequest, estimated at $69,000, and the Hanna Fellowship)	1,015,295 00
1908	1,040,882 75
Increase in productive endowment, 1904-08	227,196 75
	or, 27 per cent

Part of the increase resulted from improvements on property and consequent renting at higher rates.

INCOME.

From Productive Endowment.

1904	$ 31,464 75
1905	34,515 02
1906	35,655 65
1907	37,029 50
1908	40,598 61
Increase in income from productive endowment, 1904-1908	9,133 86
	or, 29 per cent

Scholarship and fellowship funds received from Endowment Fund Association, Daughters of the American Revolution and Colonial Dames included.

* The Colleges of Medicine and Law are not considered in this statement, with the exception of two instances, which are specified.

From Tuition, Fees, Private Donations for Current Use and Miscellaneous Sources.

1904	$ 17,681 41
1905 (first year of the Special Fund)*	39,256 58
1906 (decrease in Special Fund)	35,863 48
1907 (tuitions increased to $14,807. Special Fund decreased from $10,000 to $5,000)	36,244 59
1908 (tuitions increased; Special Fund decreased)	36,225 82
Increase in this income, 1904-1908	18,544 41
	or, 104.8 per cent

From City (including Observatory levy).

1904	$ 75,145 46
1905	74,705 33
1906 (including $3,000 from Board of Education for salaries in College for Teachers)	80,841 47
1907 (first year of the half-mill tax. From Board of Education, $8,000)	139,082 52
1908 (including Board of Education)	146,385 19
Increase in income from City, 1904-1908	71,239 73
	or, 94.8 per cent.

Total Income of the University (including Observatory).

1904	$ 123,991 62
1905	148,476 88
1906	152,361 00
1907	212,357 61
1908 (including Board of Education)	236,945 29
Increase in total income, 1904-1908	112,953 67
	or, 91.1 per cent.

SALARIES.

1904	$ 68,254 13
1905	68,803 75
1906 (including College for Teachers)	78,366 14
1907	101,411 82
1908 (including College for Teachers)	112,121 63
Increase in total salaries, 1904-1908	43,867 50
	or, 64.3 per cent.
Excluding salaries in the College for Teachers, paid by the Board of Education	102,500 03
	or, 50 per cent.

* Special Fund consists of gifts for the temporary assistance of the University; applied to current expenses.

MATERIAL IMPROVEMENTS.

(in plant and equipment, not in productive estate, naming the chief items only.)

Buildings.

Observatory building, coal bins, fire line, smoke consumer, fourth floor McMicken Hall, north wing Technical School building, boys' shower bath and locker room improved, drinking fountain installed in hallway, girls' dressing room added for gymnasium classes, locker and shower bath rooms improved, ($4,250 taken from the Thoms Endowment Fund)	$ 24,396 55

Equipment.

New telescope and other instruments in Observatory	11,253 88
Improvements in drawing rooms and laboratories	9,219 27
Museum, classification and arrangement	1,000 00
Engineering laboratory moved to Technical School building and improved	1,000 00

Grounds.

Permanent improvements: grading, new roads, trees, (including $800 raised by ladies of Cincinnati)	5,267 47
Observatory lot purchased	6,071 85
Total expenditure for material improvements, 1904-1907	$ 58,209 02

STUDENT ATTENDANCE.

Colleges.	1903-04	1904-05	1905-06	1906-07	1907-08	1908-09
Liberal Arts	369	379	395	405	416	411
Teachers and Externals in Liberal Arts	..	....	....	248	335	426
Engineers	97	101	120	135	176	191
Teachers	56	91	191	270	158	220
Graduates	32	52	52	92	93	101
	554	623	758	1,150	1,178	1,349
Counted twice	7	...	...	161	144	222
Net total	547	623	758	989	1,034	1,127

Increase in student attendance, 1903-04 to 1908-1909, 106 per cent.

Since 1904, the College of Engineering and College for Teachers have been built up, tending to reduce attendance in the College of Liberal Arts. Standards of admission and promotion in all colleges have been raised by half, excluding many that could have entered in former years.

Total number of students, 1908-09, as given, does not include teachers who are taking part in grade conferences in the schools.

ORGANIZATION.

Colleges and Faculties.

In 1904 the University consisted of the College of Liberal Arts, the College of Law, and the College of Medicine. In 1904 the College of Engineering was established; in 1905 the College for Teachers; in 1906 the Graduate School. Six new departments of instruction (professorships) have been established. The increase in courses is indicated as follows:

	1903-04	1908-09
College of Liberal Arts and Graduate School	194	266
College of Engineering	47	102
College for Teachers (excluding grade conferences and External Courses)	..	31
	241	399
Increase in number of courses		158
	or, 65.5 per cent.	

Instructional and Administrative Staff.

Colleges.	*Number of Persons.* 1903-04	1908-09
Liberal Arts	39	77
Engineering	20	51
Graduate	..	42
Teachers	..	15
Observatory	2	4
Administration	3	8
	69	197
Counted twice	13	95
	56	102
	or, 82.1 per cent.	

THE COLLEGE OF MEDICINE

CINCINNATI, O., December 31, 1908.

To the President of the University of Cincinnati:

SIR—I have the honor to submit the report for the year ending December 31, 1908.

FACULTY.

I regret to report the death of Dr. Samuel Nickles, Emeritus Professor of Materia Medica and Therapeutics, who died within the past year. He served the College faithfully for nearly thirty years. He was a most excellent teacher, separating the chaff from the wheat, and impressing upon the students the essentials, always going out of his way to establish principles.

The following members of the faculty resigned the past year:

William Muehlberg, M. D., Professor of Physiology.

August Ravogli, M. D., Professor of Dermatology and Syphilology.

Charles Seth Evans, B. S., M. D., Professor of Genito-Urinary Diseases.

E. S. McKee, M. D., Lecturer on Clinical Gynecology.

The following appointments were established:

M. L. Heidingsfeld, M. D., Lecturer on Dermatology and Syphilology.

E. O. Smith, M. D., Lecturer on Genito-Urinary Diseases.

Edmund M. Baehr, M. D., Lecturer on Physiology.

STUDENTS.

At the last Commencement exercises the degree of Doctor of Medicine was conferred upon twenty-six students, a list of whom, together with the prizes awarded, may be found in the current number of the University Catalogue (1908-1909). Twenty-one of the twenty-six graduates were appointed to hospital interneships.

There were enrolled during the present session (1908-1909) 118 students, divided among the four classes as follows:

Freshmen	31
Sophomores	23
Juniors	27
Seniors	32
Special	5
Total	118

Clinic.

There has been a marked increase in cases during the year, about 40 per cent., and a decided improvement in the management of the dispensary for teaching purposes.

Alumni Association.

A well attended and enthusiastic meeting was held in June at Chicago, classes so far back as 1865 being represented.

Postgraduate Teaching.

The first course of the postgraduate teaching has been a complete success. The number of physicians attending was twenty-nine, and they entered into the work with great enthusiasm and apparently with great profit. The course was carried out as it was projected—with the purpose of supplying to practitioners in a camparatively short space of time all that was necessary to add to their knowledge of modern methods in diagnosis and treatment of disease. The lectures were delivered with the principal aim of helping those in attendance by supplying them with the data which mark the progress in medicine and surgery.

Publications.

I append a list of the publications of the various members of the faculty. There are thirty-nine titles, one the title of a book, which would show that the faculty has done its duty not only in teaching but in contributing to the general fund of medical knowledge:

Dr. C. L. Bonifield—"Retro Deviations of the Uterus;" "Ectopic Gestation" (*Transactions Southern Surgery*).

Dr. Henry Wald Bettmann—"Diagnosis of Acute Cholecystitis" (*Arch. of Diagnosis*, Vol. I, No. 1); "Diagnosis of Chronic Cholecystitis" (*Arch. of Diagnosis*, Vol. I, No. 2); "Cholecystitis with Suggestions for the Preventon of Gall-stones" (*Medical Record*, Nov. 28, 1908).

Dr. A. G. Drury—"Dante: Physician." Issued by Lancet-Clinic Publishing Co.

Dr. F. Forchheimer—Shattuck Lecture, "Some Aspects of Gonorrhea" (*Boston Medical and Surgical Journal*); Annual Address in Medicine (*Ohio State Medical Journal*).

Dr. Albert H. Freiberg—"A Further Report on the Treatment of Joint Tuberculosis by Marmorek's Serum" (*American Journal of Orthopedic Surgery*); "Relaxed Knee Joint" (*American Journal of Medical Sciences*); "A Demonstration and Discussion of Non-Tuberculous Arthritis" (*Translation of the American Roentgen-Ray Society*).

Dr. Herman H. Hoppe—"Idiopathic Status Hemiepilepticus-Idiopathic Focal Epilepsy" (*Journal of Nervous and Mental Diseases*).

Dr. C. R. Holmes—"Hospitals and Hospital Management" (*American Practice of Surgery,* Vol. 8); "Modern Hospitals, with Special Reference to the Cincinnati New General Hospital and Medical Education in Cincinnati" (to be published as a brochure); "The Relation of Pathological Changes in the Accessory Sinueses of the Nose to Diseases of the Eye" (*Annals of Otology, Rhinology and Laryngology*).

Dr. M. L. Heidingsfeld—"Osteoma Cutis" (*Arch. für Dermatologie und Syphilis*); "Liquid Carbonic Acid Snow in Dermatology" (*Ohio State Medical Journal*); "Vitiligo: A New Instrument for its Successful Treatment, and for the Obliteration of the Disfigurement from Scars and Tatoo-Marks" (*Lancet-Clinic*); "Multiple Benign Cystic Epithelioma" (*The Journal of Cutaneous Diseases*); "Lymphangioma Tuberosum Multiplex" (*The Journal of Cutaneous Diseases*); "Paraffin Prosthesis: A Further Contribution on its Clinical Features and Histo-Pathology" (*Journal of the American Medical Association*).

Dr. Samuel Iglauer—"The Choice of an Anesthetic, with Some Consideration Regarding the Technique of Administration" (*Lancet-Clinic*); "A Method of Preventing Hemorrhage during Adenectomy" (*The Laryngoscope*).

Dr. B. F. Lyle—"The Modern Treatment of Consumption" (*Lancet-Clinic*); "The International Congress on Tuberculosis" (*Lancet-Clinic*); "Diagnosis of Tuberculosis in its Incipience" (*Lancet-Clinic*); "Rest and Exercise in the Treatment of Tuberculosis" (*Lancet Clinic*).

Dr. B. K. Rachford—"Value of Inunctions in the Treatment of Certain Diseases of Childhood" (*American Journal of Medical Sciences*).

Dr. Horace J. Whitacre—Section on "Excisions and Resections" in the *American Practice of Surgery*—Bryant and Buck, Vol. IV; "Arthroplasty for Ankylosis" (*Lancet-Clinic*); "Three Cases of Imperforate Anus with Retrovaginal Fistula" (*Journal American Medical Association*).

Dr. Marion Whitacre—"Puerperal Fever" (*Lancet-Clinic*); "The New Pathology" (*Lancet-Clinic*).

Dr. Philip Zenner—"Cases of very Generalized Polyneuritis" (*Journal American Medical Association*); "Diagnosis of Tabes and Pseudotabes" (*The Arch. of Diagnosis*); "A New Sign for the Detection of Malingering and Functional Paresis of the Lower Extremities" (*Journal American Medical Association*); "The Human Element in Medicine" (*Lancet-Clinic*).

Dr. E. Gustav Zinke—"The Mortality and Morbidity of Child-bearing Women could be reduced to a Minimum if Maternity Hospitals were more in Favor with the Profession and the Laity" (*Lancet-Clinic*); "Solving the Problem of Obstetrics" (*American Journal of Obstetrics*).

Respectfully submitted,
F. FORCHHEIMER, *Dean.*

THE COLLEGE OF LAW

CINCINNATI, O., December 1, 1908.

To the President of the University of Cincinnati:

SIR—I have the honor to submit my report as Dean of the College of Law of the University of Cincinnati for the calendar year 1908.

THE FACULTY.

The faculty of the College of Law consists of the following-named professors and instructors:

Professors:
- William P. Rogers, A. B., LL. D.
- William H. Taft, LL. D., (absent on leave).
- Henry A. Morrill, Professor Emeritus.
- Judson Harmon, LL. D.
- John R. Sayler, LL. D.
- Lawrence Maxwell, A. M., LL. D.
- Robert C. Pugh, LL. B.
- Alfred B. Benedict, A. B., LL. B.

Instructors:
- Francis B. James, LL. B.
- Charles Theodore Greve, A. B., LL. B.
- Eldon R. James, B. S., LL. B.
- Moses F. Wilson, LL. B.

Professor Henry A. Morrill, who had for thirty-nine years been a teacher in the school, tendered his resignation June 1, 1908. The faculty adopted the following resolution pertaining to Professor Morrill and his work here:

"Henry Albert Morrill at his own request has been relieved from further duty as Rufus King Professor of Constitutional Law in the Cincinnati Law School and duly elected Professor Emeritus.

"In recording this interesting and important event in the history of the School, the Trustees and faculty desire to express their high esteem of Professor Morrill as a friend, their appreciation of his ability as a scholar and a jurist, of his devotion to the interests of the School, and of the services he has rendered to the cause of legal education and culture, and to convey to him their congratulations upon the well deserved honor which accompanies his release after thirty-nine years of active labor.

"They extend to him their best wishes for the happiness of his future. They confidently believe that 'as the evening twilight fades away, he will find the sky is filled with stars invisible by day.' *Serus in coelum redeat.*"

Professor Morrill is continued on our faculty roll as Professor Emeritus. Upon the request of the President of the University, he was placed upon the Carnegie Foundation list and is one of the honored beneficiaries of that institution.

Hon. Judson Harmon was elected to the chair of Constitutional Law formerly occupied by Professor Morrill.

The schedule was slightly rearranged by giving to Dean Rogers an additional hour's work in the subject of Suretyship, and his salary was made $5,000.00 per annum, beginning August 1, 1908.

Professor Robert C. Pugh was also given one hour's additional work in the subject of Sales and his salary fixed at $3,000.00 per annum from August 1, 1908.

The subjects formerly taught by Judge Harmon were thus continued without change in the faculty.

The Seventy-Fifth Anniversary.

The school celebrated its seventy-fifth anniversary on June 5, 1908, with appropriate ceremonies, a complete account of which is contained in the *University Record* of the date of June, 1908, to which reference is hereby made. This publication was made by the University, for which courtesy the Law School desires hereby to express its gratitude and to acknowledge its indebtedness therefor to the University authorities.

Mr. B. C. Van Wye, of the department of English in the University, is continuing his class in Public Speaking and Professor Robert C. Brooks is giving us two hours a week on the subject of "Political Science." The work of both of these gentlemen in the Law School is highly appreciated by the students, and the school is made more attractive by their courses.

The Summer School.

I am sorry to report that we have found it advisable to give up our efforts to establish a summer course in law. The small number of students taking the work offered did not justify the school in a continuance of the summer course, and it was reluctantly dropped.

The Students.

The high standard in character, scholarship, and gentlemanly conduct which has in the past characterized our student body is fully sustained by the membership this year. The enrollment will be practically the same as last year, although we believe that, except for the recent financial depression, it would have been much larger. The classes are divided as follows: 22 in the third-year class, 32 in the second-year class, and 31 in the first-year class. Of the students 38 are from the city of Cincinnati; 29 are from other points in Ohio; 18 are from other states. Of our enrollment during the present session 33⅓ per cent. are college graduates.

The universities and colleges represented are: Yale, Harvard, University of Cincinnati, University of Michigan, Denison University, University of Wooster, Ohio Wesleyan University, Miami University, DePauw University, Brown University, Transylvania University, St. Xavier College, Kenyon College, Oberlin College.

In June, 1908, the degree of Bachelor of Laws was conferred upon the following named gentlemen:

Oscar A. Berman
Horace R. Bonser
Edward C. Hauer
Louis R. Hicks
Ralph H. Inott
Thomas T. Justis, Jr.
Sidney G. Kusworm
Roy Garstang Lamberton
Michael Minges
Shuler J. McCormick.
Alphonse J. Pater
Burt Rabbitts
D. Walter Rogers
Linmur Scamman
George Schelhorn
Abraham W. Schulman
William A. Stark
Percy A. Thompson
John F. Wohlgemuth

Lectures.

The plan of calling upon eminent members of the Bench and Bar occasionally to address the School is still continued with success. Since my last report the following addresses have been given to the members of the school:

"The Federal Courts," by Hon. Frank O. Loveland;

"The Supreme Court as an International Tribunal," by Hon. Thornton M. Hinkle.

Our Relations to the University.

I am pleased to include in this report the fact, already known to you, that, notwithstanding ten years have elapsed since we became a department of the University of Cincinnati, this being the term at the end of which either party to that contract might, by giving notice, terminate it, those in charge of the Law School desire that our relations shall continue indefinitely. And the Board of Directors of the University have signified their concurrence in this desire by again paying the $1,000.00 provided in the contract between the two institutions.

The School's finances are unchanged since my last report.

I am pleased to report that distinguished honors have recently been conferred upon two gentlemen who are closely connected with the school. Hon. Wm. H. Taft, a former Dean of the School, has been elected President of the United States, and Hon. Judson Harmon has been elected Governor of the State of Ohio.

Respectfully submitted,

W. P. ROGERS, *Dean.*

THE GRADUATE SCHOOL

CINCINNATI, O., December 7, 1908.

To the President of the University of Cincinnati:

SIR—I have the honor to submit the following report of the Graduate School for the calendar year 1908.

THE FACULTY.

The following changes were made in the faculty of the Graduate School for the year 1908:

Robert Clarkson Brooks, Ph. D., was appointed Professor of Political Science in the recently established department of Political and Social Science, and George Philip Krapp, Ph. D., Professor of English, to fill the position made vacant by the retirement of Professor Brown. Professor Guy Allan Tawney, Ph. D., was appointed to the chair of Philosophy.

Professor Michael Frederic Guyer, head of the department of Biology; Associate Professor George Morey Miller, of the department of English, and Assistant Professor George Henry Allen, of the department of Latin, were each granted one year's leave of absence, in order to study abroad during the academic year 1908-09.

The faculty now consists of twenty professors, one associate professor, one lecturer, nine assistant professors, and nine instructors.

STUDENTS.

The total number of students enrolled in the Graduate School for the first semester of 1908-09 is ninety-two. Of these fifty-nine are alumni of this University. The remainder are graduates of the following institutions:

Antioch College	1
Bryn Mawr College	1
Budapest Gymnasium	1
Bucknell University	2
Columbia University	2
Defiance College	1
German Theological Seminary, Newark, N. J.	1
Harvard University	2
Kentucky University	1

Marietta College	1
Mary Sharp College	1
Massachusetts Institute of Technology	1
Mount Holyoke College	2
Oberlin College	1
Ohio University	1
Ohio Wesleyan University	2
Smith College	1
Trinity College	1
University of Michigan	2
University of Minnesota	1
Vassar College	1
Wabash College	1
Wellesley College	2
Yale University	3
Total outside of University of Cincinnati	33
University of Cincinnati	59
Total registered in Graduate School	92

One-fifth of these are candidates for the degree of Doctor of Philosophy; most of the remainder are pursuing studies leading to the degree of Master of Arts.

Degrees.

The degree of Master of Arts was conferred, June 6, 1908, on the following candidates:

Frank Washington Ballou, B. S., Teacher's College	Columbia University,	1904
Cora May Box, A. B.	University of Cincinnati,	1904
Annette Frances Braun, A. B.	" "	1906
Carolyn Ormsby Burns, A. B.	" "	1907
Earl Francis Colburn, A. B.	Miami University,	1907
Marie Paula Dickore, A. B.	University of Cincinnati,	1907
Jean Olive Heck, A. B.	" "	1907
Nathan Tovio Isaacs, A. B.	" "	1907
Arthur James Kinsella, A. B.	" "	1903
Louis Joseph Kopald, A. B.	" "	1906
Maud Maddux, A. B.	" "	1906
Jacob Mielziner, A. B.	" "	1900
Charles Louis Ottermann, A. B.	" "	1906
Leon Denning Peaslee, A. B.	" "	1907
Louis Wendlin Sauer, A. B.	" "	1907
Albert Schwartz, A. B.	" "	1906
Benjamin Herman Siehl, A. B.	" "	1906

Charles F. Siehl, A. B.....University of Cincinnati, 1906
Jacob Singer, A. B,..... " " 1907
Nelson Asbury Walker, A. B..... " " 1895
Elifelet Asbury Watkins, A. B.....Defiance College, 1907
Winfred Paul Webber, A. M..... " " 1902
Horace Joseph Wolf, A. B.....University of Cincinnati, 1907

FELLOWSHIPS AND SCHOLARSHIPS.

Three fellowships and a traveling scholarship are now open to the members of the Graduate School: The Fellowship in American History, established by the Daughters of the American Revolution, with an emolument of one hundred dollars per annum; the Alliance Française Scholarship in Romance Languages, yielding an income of three hundred dollars; the Colonial Dames Fellowship in Ohio Valley History, with a stipend of three hundred dollars; the Hanna Fellowship in Physics, yielding an income of five hundred dollars. A number of instructorships are also usually assigned to graduate students, while ten scholarships are available for the remission of tuition fees.

The following appointments were made for the academic year 1908-09:

Gordon Woods Thayer, Fellow in Greek by Courtesy; A. B., Harvard University, 1906; A. M., 1907; Graduate Assistant in Latin and Greek, University of Cincinnati, 1907-08.

Edgar Chew Sweeney, Colonial Dames Fellowship in Ohio Valley History; A. B., Marietta College, 1908.

Robert E. Clyde Gowdy, Hanna Fellowship in Physics; A. B., University of Cincinnati, 1906; A. M., 1907; Student Assistant in Physics, 1905-06; Hanna Fellow in Physics, 1906-08.

The Teaching Fellowship in Zoology was awarded to Leon Denning Peaslee, A. B., University of Cincinnati, 1907; A. M., 1908; Student Assistant in Biology, 1905-07; Teaching Fellow in Zoology, 1907-08.

The Teaching Fellowship in Botany was awarded to Louis Wendlin Sauer, A. B., University of Cincinnati, 1907; A. M., 1908; Student Assistant in Botany, 1905-07; Fellow in Botany, 1907-08.

University Scholarships were awarded as follows:

Maximilian Braam, A. B., University of Cincinnati, 1906.

John De Moss Ellis, A. B., University of Cincinati, 1907.

Chilton Rupert Stearns, A. M., University of Toronto, 1904.

RESEARCH WORK COMPLETED AND IN PROGRESS.

During the year there was published by the Observatory: "The Results of the Variation of Latitude from 1899-1906."

Research work is in progress, as follows:

Meridian observations of proper-motion stars.

Micrometrical measures of nebulae.

Variation of latitude.

The following publications have been contributed by the instructors and students in the department of Biology;

H. M. Benedict: "The Organization of Biological Excursions" *(Nature Study Review);* "Occurrence of Paragonimus westermanii near Cincinnati" *(Ohio State Academy of Science);* "Bird-Nesting Reserves as Adjuncts to Municipal Park Systems" *(Bird Lore);* "A Difference Between the Leaves of Old and Young Plants" *(Ohio State Academy of Science);* "Effect of Internal Factors on Venation of Leaves" *(A. A. A. S.).*

H. L. Wieman: "A Study in the Germ Cells of Leptinotarsa signaticollis."

Cora M. Box: "Notes on the Plumatella of Cincinnati."

L. D. Peaslee: "The Anatomy and Regeneration of Phagacata gracilis."

L. W. Sauer: "Notes on the Development of Sex Cells of Convallaria;" "A Key to Ohio Conifers" *(The Plant World).*

Annette F. Braun: "Micro-Lepidoptera of Ohio."

W. G. Cramer: "Chart of Best Localities for Bird Study near Cincinnati, with Lists of Birds to be found in each at different seasons."

The department reports the following research work:

Effect of propagation of Begonia rex by leaf-cuttings on the venation.

Spermatogenesis of the snail.

Correlations in variations in the English sparrow.

The origin and identification of common green-house plants.

The professor of Chemistry has ready for publication an article on "The Conversion of Iso-Nitromethane into Fulminates." He is now at work on "The Preparation of Oximido Carbonic Ethyl Ester." In conjunction with other members of the department he has carried on research in the following fields:

Hydroxamic acids from the Hydroxlamine salts of organic acids.

A study of compounds formed by the action of Hydrocarbons upon Aromatic Nitro bodies.

Synthesis of Halogen derivatives of Quinoline with Halogen atoms in the Benzene nucleus.

The preparation of a new Hydrocarbon, Di-isopropyl Methane.

The assistant professor of Chemistry has ready for publication an article on " A Study of the Reducing Action of Magnesium on Aromatic Nitro Bodies," and another on "Applications of the Theory of Positive and Negative Valences to the Constitution of Benzene and its Derivatives;" and is carrying on investigations on the preparation of Chromyl Bromide and Chromyl Iodidel and the preparation and reduction of Nitro Thiocarbanilids.

The assistant professor of Metallurgy has ready for the press, "The Development of a General Formula for the Process of Drying," and is at work on "The Relation between the Coking Power and the Composi-

tion of Coal" and "Investigation of the Electrical Permeability of Cast Iron."

The professor of German has completed elementary and advanced composition books, with a syntax, for the study of German, to be published by Henry Holt & Company.

The assistant professor in this department has finished two articles, "Musical Accent and Double Alliteration in the *Edda*," to appear in *Modern Philology*, and "The Composition of the Icelandic Family Sagas," to be published in *The Journal of English and Germanic Philology*.

The professor of geology is at work on problems in regional physiography.

The professor of Greek published the following papers:

Interpretation of the First Antistrophe of the *Ajax* of Sophocles;" "The Use of οἷος, ποῖος and ὁποῖος" (both in the *Transactions of the American Philological Association*).

"Note on κλισιαίς ὄμμ' ἔχων" *(Classical Review)*.

"Agrippa's Response to Paul" *(Classical Review)*.

"Two Great Problems" *(Pedagogical Seminary)*.

"A Question of Divination" *(University of Cincinnati Studies)*.

The following papers are completed and ready for publication:

Plato, *Phaedo* 65 A and B.

The Acts, 26:28.

The papers are to be read before the American Philological Association at its annual meeting in Toronto.

The assistant professor of History has edited the following publications:

"Selections from the Torrence Papers, III" *(Quarterly Publication* of the Historical and Philosophical Society of Ohio.)

"Selections from the Torrence Papers, IV" (*Quarterly Publication* of the Historical and Philosophical Society of Ohio).

"Reprint of Drake's 'Early Notices Concerning Cincinnati, 1810'" (first book published in Cincinnati), in the *Quarterly Publication* of the Historical and Philosophical Society of Ohio.

"First Annual Report of the Ohio Valley Historical Association." Columbus, 1908.

The instructor in English History has in preparation an article on "The Beguines and the Beghards from the Thirteenth to the Fifteenth Century."

The Colonial Dames Fellow in Ohio Valley History for the year 1907-08, has embodied the results of his work in an article on "The Political Career of William Henry Harrison," while the D. A. R. Fellow in American History for the same year has contributed "The Mound-Builders on the Present Site of Cincinnati."

The professor of Latin expects soon to receive from the press his "Commentaire anonyme sur Prudence d'après le manuscrit unique de Valenciennes 389-413." He is also preparing a paper on Cicero's library,

entitled "A Linguistic Speculation," to be read at Columbus on December 29, 1908.

The assistant professor of Latin has published an article on "The Advancement of Officers in the Roman Army," in the *Supplementary Papers of the American School of Classical Studies in Rome*, Vol. II, 1908.

He is preparing for the press, while abroad this year, a hitherto unpublished set of fourteenth century *fueros*, or Spanish law-books.

Research work is in progress on the following subjects:

Studies in Virgilian magic.

Paris Commentum in Lucanum I-III, from Cod. Parisin. Lat. 7900 A. Text reproduced from photograph, "white-on-black," with critical apparatus introduction, and study of sources and parallels.

Rhetorical study of Cicero in Cat. I, II, III.

Lucretian metrics.

The professor of Mathematics has about completed Volume I, on "Analysis," of his work on *The Theory of Elliptic Functions*, in three volumes, about 600 pp.

One of the instructors in Mathematics has published:

"On Certain Constants Analogous to Fourier's Constants" *(Bulletin American Mathematical Society, May,* 1908).

"Note on the Roots of Bessel Functions" *(Annals of Mathematics,* July, 1908).

He also has an article on "The Summability of the Developments in Bessel Functions, with Applications," ready for the press, and is at work on two others, entitled, "Fourier Developments of Non-Integrable Functions" and the "Summability of the Fourier Integral."

The professor of Applied Mathematics has in press an article on "The Collapse of Tubes under External Pressure," to appear in *Engineering*, London, and has ready for publication another on "The Geographic Aspect of Culture." He is also at work on a text-book on the subject of Dynamics.

The members of the department have contributed an article on "The Teaching of Mathematics," in *Science*, July, 1908, and have in completion another, "A Review of Current Ideas on the Teaching of Mathematics," to appear shortly in the *Educational Review*.

Research is being conducted on the following subject:

A theoretical and experimental investigation of the strength of curved members, with an experimental determination of the position of the neutral axis in cast iron.

The professor of Philosophy contributed an article on "Ultimate Hypothesis in Psychology," *Journal of Philosophy, Psychology, and Scientific Method*, September, 1908, and a paper on "Purposive Consistency" in a volume of *Essays Philosophical and Psychological in Honor of William James*," Longmans, 1908. He has in preparation "Immediate Values and Self-Thought," and has also completed during the year seven chapters on "The Method of Judgment."

The professor of Physics has contributed the following publications for the current year:

"Fatigue of Metals Exposed to Roentgen Rays" (with the Hanna Fellow in Physics), read before the American Physical Society, December 29, 1907, and published in *Physical Review,* January, 1908.

"A New Scheme for Engineering Education" (*Educational Review,* October, 1908).

"Essay on Atomic Theories and Modern Physics" (to appear shortly in *Hibbert Journal).*

The assistant professor of Physics has published an article on the "Propagation of Electric Waves in Wireless Telegraphy" in the *Electrical World,* September, 1908.

The instructors have completed the following:

Radio-activity of a Smoke-laden Atmosphere" *(Physical Review,* June, 1908).

"On the Range and Total Ionization of the x Particles" *(Physical Review,* October, 1908) .

"On the Physical Measurements of X-Rays" (in conjunction with Dr. H. K. Dunham). In press (*Archives of the Roentgen Society of Great Britain.*)

"On Magnetic Rotation Spectra" *(Physical Review,* 1908).

The professor of Political science has completed several articles on "The Nature of Political Corruption," one of which will appear shortly in the *Political Science Quarterly.*

The department of Psychology has in press a publication on "The Effect of a Constant Stimulus upon Touch Localization," which will appear as a number of the *University of Cincinnati Studies.* Work is also in progress on "Memory and its Applications to some Phases of School Work" and Rivalry of Light Impressions upon the Periphery of the Retina."

The professor of Romance Language is at work upon a two-volume edition of the French Renaissance sonnets, and the assistant professor is engaged in editing Fernan Caballero's *Gaviota.*

Needs of the School.

So far as the needs of the Graduate School are concerned, I can do no more than repeat what I said in my last report with reference to books, scientific apparatus and teaching force, and fellowships and scholarships. I believe that we have the opportunity to build up one of the greatest graduate schools in the Middle West; that the majority of the faculty are eager to do their part in contributing to that end; and that their efforts will be heartily seconded by the most influential and public-spirited citizens of Cincinnati, who are now, as never before, willing to lend us their aid and support in seriously considering the important problem of how to build up the University of Cincinnati in all its colleges and departments of learning.

Donations.

Several new statues have been added to the archaeological collection since my last report. These include: "Artemis of Gabii," "Psyche of Capua," "Ajax," "Hector and Andromache," "The Boy and Goose," "Venus de Medici," and "Hero." Two orignals, a *lckythos* and an *oenochoe*, were also purchased for the museum. More space is now required for works of art already ordered for this department.

The New Chair of Comparative Literature.

The chair for the comparative study of literature has just been esablished in memory of Nathaniel Ropes, of Cincinnati and Salem, Mass. Courses given in this department are primarily for graduates; and as the study of this subject has come to the front only within the last few years, and few universities have established professorships in comparative literature, I feel that the foundation has considerably strengthened our Graduate School.

Respectfully submitted,

J. E. HARRY, Dean.

McMICKEN COLLEGE OF LIBERAL ARTS

CINCINNATI, O., December 2, 1908.

To the President of the University of Cincinnati:

SIR—I have the honor to present my report as Dean of the College of Liberal Arts for the calendar year 1908.

THE FACULTY.

The members of the College of Liberal Arts received with grief the news of the decease of Edward Miles Brown, Emeritus Professor of the English Language and Literature, who died at his home in Ann Arbor, September 14, 1908. Professor John M. Burnam represented the faculty of the College of Liberal Arts at the funeral service in Ann Arbor, and a memorial service was held in McMicken Hall, Burnet Woods, on October 2. Professor Burnam spoke on behalf of the faculty, and reminiscences of Professor Brown's career and expressions of deep regret at his loss were presented by Mr. Bryant Venable, Miss M. Edith Campbell, and Mr. Nathaniel Maxwell on behalf of the alumni. A committee of the alumni has since been appointed to complete and publish a memorial volume containing selections from Professor Brown's letters and other writings.

A sad occurrence in the history of the University was the death of Brent Woodall, Secretary of the University, in November. Brent Woodall was an alumnus of the University, class of '07, and was made Secretary of the University in 1907.

The following members of the teaching staff have withdrawn from service at the University:

Henry Heath Bawden, Ph. D., Professor of Philosophy, retired at the close of the academic year 1907-08; Elizabeth Merrill, A. M., Instructor in English, entered the Graduate School of Yale University as Fellow in English; Anna Franklin Strickland, A. B., instructor in Physical Education, accepted a position in Columbia University; Joseph Edward Kindle, A. M., instructor in Mathematics, withdrew to pursue studies in mathematics at Harvard University; Aaron Leland Sapiro, A. M., assistant in History, entered upon a law career in San Francisco, Cal.; Mary Edith Campbell, A. M., assistant in Economics, retired in June, 1908, in order to give her undivided attention to the work of the Charlotte R. Schmidlapp Memorial Fund for Girls.

Professor Michael Frederic Guyer, Ph. D., is absent on leave for the academic year 1908-09, pursuing studies in France, as are also Associate Professor George Morey Miller, A. M., and Assistant Professor George Henry Allen, Ph. D., the former in Germany, the latter in Spain.

The following additions have been made to our teaching force:

Robert Clarkson Brooks, Ph. D., Professor of Political Science: A. B., Indiana University, 1896; Ph. D., Cornell University, 1903; Editor of *Municipal Affairs*, 1896-97; resident in the University Settlement, New York City, 1896-97; President White Fellow in Political and Social Science, Cornell University, with traveling scholarship for study at Halle and Berlin, 1897-99; Assistant in Economics, Cornell University, 1899-1900; Instructor in Economics, 1900-04; Professor of Civics and Economics, Cornell University Summer School, 1902-03; Professor of Economics, Swarthmore College, 1904-08; Professor of Political Science, University of Cincinnati, 1908—.

George Philip Krapp, Ph. D., Professor of the English Language and Literature: A. B., Wittenberg College, 1894; A. M., 1897; Ph. D., Johns Hopkins University, 1899; instructor in English, Horace Mann School, 1897-98; instructor in English, Teachers College and Columbia University, 1897-1907; Adjunct Professor of English, Columbia University, 1907-08; Professor of the English Language and Literature, 1908—.

Guy Allen Tawney, Ph. D., Professor of Philosophy: A. B., Princeton University, 1893; A. M., 1894; Ph. D., Leipsic University, 1896; Demonstrator in Psychology, Princeton University, 1896-7; Associate Professor of Philosophy, Beloit College, 1897-98; Professor of Philosophy, Beloit College, 1898-1907; Lecturer in Philosophy, Columbia University, Feb., 1906-1907; Assistant Professor of Philosophy, University of Illinois, 1907-08; Professor of Philosophy, University of Cincinnati, 1908—.

John Dougan Rea, A. M., Acting Assistant Professor of Latin: A. B., Yale University, 1903; A. M., 1905; teacher, Farmington, Connecticut, and graduate student, Yale University, 1903-05; Instructor in Latin and History, Winchester, Indiana High School, 1905-06; Instructor in Latin, Yale University, 1906-08; Acting Assistant Professor of Latin, University of Cincinnati, 1908—.

Harry Lewis Wieman, A. M., Instructor in Biology: A. B., University of Cincinnati, 1905; A. M., 1906; Instructor in Science, Technical School, University of Cincinnati, 1905-07; Assistant in Biology, University of Cincinnati, 1906-07; Assistant in Zoology, University of Chicago, 1907-08; Instructor in Biology, University of Cincinnati, 1908—.

James Francis Dilworth, A. M., Instructor in English History: A. B., Rutgers College, 1902; A. M., Columbia University, 1903; graduate student Columbia University, 1902-05; Assistant in European History, University of Wisconsin, 1905-08; Instructor in English History, University of Cincinnati, 1908—.

Charles Napoleon Moore, Ph. D., Instructor in Mathematics: A. B., University of Cincinnati, 1903; M. S., George Washington University, 1905; graduate student and Shattuck Scholar in Mathematics, Harvard University, 1905-08; Ph. D., Harvard University, 1908; Computer, United States Naval Observatory, 1903-05; Instructor in Mathematics, University of Cincinnati, 1908—.

Taylor Scott Carter, Ph. D., Instructor in Physics: B. S., Virginia Military Institute, 1901; Ph. D., Johns Hopkins University, 1907; Hopkins Scholarship, 1904-07; Assistant Professor of Mathematics and Mechanical Drawing, Virginia Military Institute, 1902-04; Westinghouse Electric Company, 1907-08: Instructor in Physics, University of Cincinnati, 1908—.

Murrell Edwards, A. B., Instructor in Physical Education: A. B., Oberlin College, with Special Diploma in Teachers' Course in Physical Training, 1908; Instructor in Physical Education, University of Cincinnati, 1908—.

J. Ernest Carman, B. S., Museum Assistant in Geology: B. S., Simpson College, 1901; Museum Director, Iowa State Normal School, 1903; graduate student, University of Chicago, 1904-08; Fellow in Geology, 1905-06; Research Assistant in Geology, 1906-07; Museum Assistant in Geology, University of Cincinnati, 1908—.

Ralph O. Oesper, A. B., Assistant in Chemistry: A. B., University of Cincinnati, 1908; Student Assistant in Chemistry, 1907-08; Assistant in Chemistry, 1908—.

Fayette H. Elwell, A. B., Assistant in Economics: A. B., University of Wisconsin, 1908; Assistant Professor of Business Administration, Cincinnati College of Finance, Commerce and Accounts, 1908-; Assistant in Economics, University of Cincinnati, 1908—.

Louis Aryah Lurie, A. B., Assistant in Psychology: A. B., University of Cincinnati, 1908; Student Assistant in Psychology, 1907-08; Assistant in Psychology, 1908—.

Rose Sterrett Sherwood, A. B., Assistant in English: A. B., University of Cincinnati, 1908; Assistant in English, 1908—.

Ralph Cummins, A. B., Assistant in English: A. B., University of Cincinnati, 1908; Assistant in English, 1908—.

Winfred Paul Webber, A. M., was promoted from the position of Assistant in Mathematics to that of Instructor in Mathematics.

Museum Assistant in Biology: Annette Frances Braun, A. B., University of Cincinnati, 1906; A. M., 1908; Museum Assistant in Biology, 1908—.

Graduate Assistants: Edward G. Rieman, in Physics; A. B., University of Cincinnati, 1908; Emma Andriessen, in German; A. B., University of Cincinnati, 1908; Arthur Thomas Condit, in Greek and Latin; A. B., Wabash College, 1905.

Student Assistants: Edward Sturtevant Hathaway, in Biology; Clifford George Fels, Clarence R. Eckert, and Charles Hecker, in Chemistry; Mr. Sivas and Mr. Witte in Physical Education.

The Ropes Foundation.

The income from the Ropes endowment, establishing a chair for the study of comparative literature, became available at the beginning of the academic year 1908-09, and it was determined to organize a course of lectures, given by distinguished scholars in literature from various universities in the United States and Europe. The course was placed in charge of Professor Krapp, of the department of English, and the following were chosen in succession as temporary incumbents of the chair of Comparative Literature:

Alcée Fortier, D. Lit., Professor of Romance Languages, Tulane University of Louisiana. "The French Drama of the Seventeenth Century." (November 2-25, 1908, twelve lectures.)

John William Cunliffe, D. Lit., Professor of English, University of Wisconsin. "Browning in Italy." (December 2, 3, 4, three lectures.)

William Allan Neilson, Ph. D., Professor of English, Harvard University. "Milton—Artist or Puritan?" (December 11, one lecture.)

Paul Elmer More, A. M., Literary Editor of the *New York Evening Post* and the *Nation*. "Plato, Pascal, and Rousseau." (January 6-16, 1909, five lectures.)

Joel Elias Spingarn, Ph. D., Adjunct Professor of Comparative Literature, Columbia University. "The Methods of the Comparative Study of Literature." (January 18-23, two lectures.)

Eugen Kuehnemann, Ph. D., Professor of Philosophy, University of Breslau, Germany. "Goethe and Schiller." (January 25-30, six lectures.)

Brander Matthews, L. H. D., LL. D., Professor of Dramatic Literature, Columbia University. "Molière." (February 1-6, six lectures.)

Frank Wadleigh Chandler, Ph. D., Professor of English, Brooklyn Polytechnic Institute. "Aspects of Romanticism." (February 8-13, three lectures.)

Arthur Charles Lewis Brown, Ph. D., Professor of English Literature, Northwestern University. "The Celtic Influence in Literature." (February 15-27, six lectures.)

Charles William Kent, Ph. D., LL. D., Professor of English Literature, University of Virginia. "Southern Literature." (March 15-27, six lectures.)

John Livingston Lowes, Ph. D., Professor of English, Swarthmore College. "Chaucer, as Influenced by France and Italy." (March 29 to April 10, six lectures.)

Charles Alphonso Smith, Ph. D., LL. D., Professor of the English Language and Literature, University of North Carolina. "Shakspere, Browning, and Kipling." (April 12 to May 8, twelve lectures.)

Students.

The whole number of students registered in the College of Liberal Arts for the first semester of the academic year 1908-09 is 790. Of these 54 are seniors, 82 juniors, 75 sophomores, and 125 freshmen. Of the remainder 8 are irregular students, 215 specials and 231 externals.

The distribution of students according to citizenship is as follows:

Kentucky	56
From Pennsylvania, New Jersey, Michigan and Missouri (one each)	4
Indiana	2
Ohio (outside of Cincinnati)	68
Total	130
From Cincinnati	660
Total	790

The enrollment in the College of Liberal Arts shows an increase of fifty-six over the enrollment for the year 1906-07. No considerable accession may be looked for until the effect of the regeneration of the Cincinnati school system is felt in the increase of graduates from the high schools. The number of extra-urban students will probably remain constant until dormitory accommodations are provided.

Scholarships, Honors and Prizes.

The following students were elected to membership in the Phi Beta Kappa Honorary Fraternity at the close of the session 1907-08: Rose Sterrett Sherwood, Ralph Cummins, Emma Andriessen, Kate Presocia Perin, Grace Florence Spiegel, Louis Aryah Lurie, Thomas Kirby Schmuck.

The Comegys Scholarship of fifty dollars was awarded to Pochahontas Woodson Dodds.

The Five McMicken Honorary Scholarships were awarded to the following seniors: Isabelle Juliet Levi, Elizabeth Cabell Carrington, Laura Louise Schroerlucke, Louis Selbert, Florence Louise Farbach.

The twelve Thoms Honorary Scholarships were awarded to the following six juniors: Emma Lucy Braun, Archibald Bernstein, Mamie Keller, Janet Beggs Brown, Edith Springer Hoffheimer, Schachne Isaacs; and to six sophomores: Louise Gordon Stevenson, Ruth Clara Renner, Hulda Francesca Pirman, May Warnking, Edith Mae Sherrod, Doris Augusta Bingel.

The first Jones Prize of forty dollars was awarded to Louis Daniel Gross, and the second Jones Prize of twenty dollars to Emanuel Jacubowitz.

External Courses.

For three years the External courses which form a part of the work of instruction in the College of Liberal Arts have been in operation. Starting in 1906-07 with three courses, there are at present twelve courses given at various points in the city and suburbs. Altogether 411 persons (231 registered in the College of Liberal Arts, and 180 auditors) receive instruction through the medium of these courses. This branch of instruction has been self-supporting up to the present time; and it is a fair statement to say that during the past three years 718 persons have been given instruction of an academic grade practically without cost to the University treasury. In 1908, for the purpose of giving the External courses a wider utility, a special class of "auditors" was established for persons who are not candidates for an academic degree. These pay a single fee of five dollars for the course. The addition of 180 auditors seems to have justified this arrangement.

The External courses given in 1908-09 are:

Astronomy: Historical and Descriptive Astronomy (Course 100), by Professor Jermain G. Porter, at the Walnut Hills Branch Library.

Biology: Plants and Animals in their Relations to Man (Course 101), by Assistant Professor H. M. Benedict, at the North Cincinnati Branch Library.

English: The Poems and Plays of Shakspear (Course 102), by Professor George Philip Krapp, at the Avondale School.

English and American Poets of the Nineteenth Century (Course 103), by Assistant Professor Emilie W. McVea, at the Walnut Hills High School.

The same course repeated by Miss McVea as Course 113 at the Covington High School.

Development of the English Drama to 1642 (Course 114), by Mr. C. W. Park, Instructor in English, at the East End Library.

French: The Romantic and Realistic Movement in French Literature during the Nineteenth Century (Course 104), by Professor Marco F. Liberma, at the Walnut Hills Branch Library.

German: Interpretation of Goethe's *Faust* (Course 105), by Professor Max Poll, at the North Cincinnati Branch Library.

History: Modern European History (Course 106), by Professor Merrick Whitcomb, at the Walnut Hills Branch Library.

The same course repeated by Professor Whitcomb as Course 111 at the Newport High School, and as Course 112 at the Cumminsville Branch Library.

Philosophy: Thought-Movements of the Eighteenth and Nineteenth Centuries (Course 110), by Professor Tawney, at the Main Public Library.

Convocation.

The system of Convocation introduced last year has proved successful, as shown by the large attendance of students. We are indebted to the following speakers:

Mr. E. H. Hargrave, of the Cincinnati Tool Company: "Business Opportunities in South America." November 1 1907.

Mr. Charles Theodore Greve, of the Historical and Philosophical Society of Ohio: "Why the Present Site of Cincinnati was Chosen." November 8, 1907.

Mr. Braxton W. Campbell, of the Perkins-Campbell Company: "Better Opportunities in Straight Business than in the Professions." December 6, 1907.

Mr. Albert Bettinger: "The Improvement of the Ohio River." December 20, 1907.

Mr. Henry Bentley, President of the Alumnal Association of the University: "The University's Greatest Need." January 3, 1908.

President Charles William Dabney, of the University: "The University." January 17, 1908.

Mr. Frank H. Shaffer, President of the Business Men's Club of Cincinnati: "Some Duties of Municipal Citizenship." February 7, 1908.

Dr. Milo R. Maltbie, of the Public Service Commission of New York City: "The Civic Duty of University Men and Women." February 21, 1908.

Mr. James Albert Green, Trustee of the Cincinnati Public Library: "The Work of the Public Library." March 6, 1908.

Musical Convocation: Mr. D. L. Burke and Miss Ida C. Hoerner. March 20, 1908.

Mr. George Randolph Chester, author: "Literature—A Business." April 3, 1908.

Miss Laura E. Gregg, of the National Woman Suffrage Organization: "Woman Suffrage." April 10, 1908.

Rev. Charles Frederic Goss, of the Avondale Presbyterian Church: "The Unrest of the World." May 1, 1908.

President Charles William Dabney, of the University: "The City University." May 15, 1908.

Respectfully submitted,

MERRICK WHITCOMB, *Dean.*

REPORT ON SCHOOL AFFILIATION

CINCINNATI, O., December 1, 1908.

To the President of the University of Cincinnati:

SIR—I have the honor to submit my annual report as the Director of School Affiliation for the year 1908.

THE ADMISSION OF STUDENTS.

The office of School Affiliation conducts all the correspondence relating to the admission of students. This takes considerable of the time of this office at the close of one college year and at the beginning of the next year. All students admitted to the Colleges of Liberal Arts and Engineering present their credentials to this office, where they are reviewed and the proper disposition made of them. All examinations for admission of students are conducted by this office, with the coöperation of the members of the faculty, and all examinations for the removal of the entrance conditions are also arranged for by it.

After studying the conditions under which we have been working for the past year and a half, upon the recommendation of this office, the Boards of Admission took up for consideration the entrance requirements, with a view to readjusting them so that they will be better adapted to the conditions as we find them in the high schools that are affiliated with the University. Several minor changes were made relating to the administration of the requirements, but not altering the general high standard of the University which now requires sixteen units.

VISITING ACCREDITED SCHOOLS.

In order to familiarize myself with the exact situation in each accredited school, during the past collegiate year, I made a visit to every school upon our accredited list, reviewed the work of the teachers, and discussed the plans of the school with the principal. In every case I was received cordially by the principal. There seems to be a fine feeling relative to the University everywhere. There are at present on our list thirty-five high schools located in the immediate vicinity of Cincinnati. The Dayton, Ky., high school, and the evening high schools of this city have been put upon the recognized list during the past year. It has been the policy of this office to visit only those schools within the immediate

vicinity, where their affiliation with the University would be positively advantageous both to them and to us. There are in the accredited schools about two hundred and seventy-five teachers. Of these I visited in their class-room, about two hundred. It was my pleasure to speak before the student body in seventeen different schools.

Meetings Arranged for the Accredited Schools.

The general plan of entertaining the principals and teachers at one meeting, the seniors of the high schools at another, and the principals at another meeting, was carried out during the year 1908. The meeting of secondary school teachers and principals was held at the University on March 7. The morning session was addressed by President G. Stanley Hall, of Clark University, upon the subject, "Some Pressing High School Problems." In the afternoon the conference divided up into sections. The chairmen of the different sections were as follows:

Ancient Language, Mr. Stephen T. Dial, Lockland.
English, Mr. John C. Cone, Hamilton.
History, Mrs. Jennie L. Bryan, Madisonville.
Mathematics, Mr. S. J. Mauchly, Hartwell.
Modern Language, Mr. Alfred Nonnez, Cincinnati.
Science, Mr. William Werthner, Dayton, Ohio.

Of all the meetings under the direction of this office, this one is of the greatest importance. The teachers thoroughly appreciate our effort to entertain them upon this occasion, and enjoy the program. We have made a special effort to ascertain their feeling with reference to this meeting and are unable to make any suggestions for improvement, which leads me to believe that we have found the best arrangement for such occasions. The attendance at the last meeting was three hundred and fifty.

The fourth annual High School Day for the entertainment of the seniors in the accredited schools was held on May 26. Special illustrated lectures were arranged for the morning, the buildings were thrown open for inspection, and a special play was arranged for by one of the sorrorities for the afternoon, as well as a tennis match at four o'clock. There is some question in my mind as to whether this meeting should be continued.

The annual Principals' Conference was held at the University on Novmber 21. As an indication of the questions discussed at this meeting, I may state the following:

(1) The announcement of the readjustment of the requirements for admission to the University; (2) the advisability of requiring a notebook in science work when the students enter on certificate; (3) the amount of entrance credit which should be allowed for manual training work, and (4) the basis for the admission of students from the night high schools. These meetings are usually attended by twenty of the thirty-

five principals of the accredited schools, and this meeting was successful both from their point of view and from ours.

General Matters Taken Up By This Office.

The Director of School Affiliation represented the University again at the meeting of the North Central Association of Colleges and Secondary Schools held at Chicago, March 27 and 28. This association is doing admirable work in standardizing the work of the high school and bringing about friendly relations between secondary school men and university men. The association now proposes to take up the plan of inspecting and classifying colleges and universities throughout its territory. This is certainly an important piece of work and one which demands very careful consideration, and it will afford graduate schools a standard for admission.

It has been my pleasure to attend meetings of the Hamilton County Teachers' Associaton, the Cincinnati Teachers' Association, and the Southwestern Ohio Teachers' Association, the first two of which I had the pleasure of addressing. Through your courtesy, Mr. President, the Director of School Affiliation was also permitted to attend the meeting of the Department of Superintendence of the National Educational Association at Washington in February.

In closing, I desire to thank you for your unfailing support of the work of this office, and especially for your approval of my recommendation that a larger appropriation be made for the Conference of Principals and Teachers, in order that we might obtain leaders in educational work from different parts of the country. Last year, by virtue of that fact, we had as our guest President G. Stanley Hall. This year, Professor Paul H. Hanus, of Harvard University has accepted our invitation to address a similar gathering. This report will be incomplete without an expression of my appreciation of the hearty coöperation received from the members of the faculty in carrying out the regulations pertaining to the admission of students, and especially of the valuable advice and counsel which I have received from the Boards of Admission.

Respectfully submitted,

FRANK W. BALLOU,

Director of School Affiliation.

THE OBSERVATORY

CINCINNATI, O., November 26, 1908.

To the President of the University of Cincinnati:

SIR—I have the honor to submit my annual report as Director of the Observatory and Professor of Astronomy for the year 1908.

By the purchase of the tract to the west, and by the generous gift of Mr. John Kilgour of the property on the north, the Observatory is now amply protected from encroachments on these two sides. While the gradual building up of this section of the city and the increased sky light from the numerous street lamps would render inadvisable the taking up of certain kinds of work, there is no reason to anticipate that the location will ever become unsuitable for such lines of observation as we are now pursuing.

The work accomplished along these lines during the year has been as follows:

With the sixteen-inch refractor 480 observations of nebulae have been secured. Nearly all the nebulae on the working list have now been observed at least twice, and it is hoped to complete this catalogue and have it ready for publication next year.

A series of measures were likewise made on comets, as well as some observations on the planet Saturn.

With the zenith telescope observations have been continued throughout the year for the variation of latitude, about 1,200 pairs of stars being secured. The greater part of these observations was made by Dr. Stewart. He has also taken a few plates with the photographic lens now mounted on the Mitchel telescope. While the results are satisfactory so far as the lens is concerned, the fogging of the plates by sky light shows the inutility of attempting to expand this work. The purpose for which the lens was purchased will be subserved if it enables us to locate minor planets and comets for observation with the large telescope.

Mr. Elliott Smith with the meridian circle has made nearly 3,000 observations. The star positions thus determined are to serve as the basis of our new catalogue of proper motion stars.

For some years to come this meridian work will constitute the most important part of our scientific investigations. The installation of a new clock system, recently authorized by the Board of Directors, will to some extent facilitate this work; but the conditions under which the observing

is done are not altogether satisfactory, and I am preparing plans for a new meridian building and a larger and more modern instrument, which I hope can be secured for the observatory in the near future.

Successful observations of the solar eclipse of June 28 were made by Dr. Stewart, Mr. Smith, and myself.

The instruction to classes in the University is now given entirely by the professor of astronomy. Twenty-six were enrolled in Descriptive Astronomy given in the spring semester; eleven in General Astronomy running through the year; one in Celestial Mechanics, and fifty in Historical and Descriptive Astronomy given at Walnut Hills Branch Library as an External course.

The card catalogue of the library has been completed by Mr. Lewis. There are now about 3,250 bound volumes and 1,300 unbound pieces and pamphlets.

Visitors have been admitted to the Mitchel building on the moonlight nights. During the summer and fall more have applied for tickets than could be accommodated. It is purposed to procure a projection lantern and slides of the more interesting astronomical objects for the entertainment of parties on evenings when the telescope itself can not be used.

Equipment and Work of the Observatory.

During the last twenty-four years, since the present director has had charge of the observatory, over $25,000 have been spent for equipment and permanent improvements. The most important items are as follows:

Meridian circle	$3,300
Iron dome for main building	3,500
Sixteen-inch telescope	9,500
Mitchel building	5,400

The whole of this amount has been saved from the regular income of the Observatory, which up to five years ago did not average $6,000 a year. The equipment of the Observatory is now fairly satisfactory for the lines along which we are working. What is more to the purpose, however, is that this equipment has been put to good use in carrying on scientific investigations. During the period above mentioned five catalogues of stars have been issued. Each one has, as a rule, embodied the results of five years of observation, and the amount of work required in the reduction and preparation for the press has been enormous. One catalogue of nebulae, one of double stars, and the results of the work on the variation of latitude have also been issued. Besides these regular publications, a great many series of measures on comets and minor planets and numerous miscellaneous observations have been made and published in the astronomical journals.

It will be noticed that the most important part of our work has been that with the meridian circle. As to the scientific importance of this work,

I will quote from a recent article in the June number of the *North American Review,* by Professor Campbell, Director of the Lick Observatory, on "The Nature of an Astronomer's Work":

"I wish it were possible to give here an idea of the valuable and extensive investigations which have been made with meridian instruments. At least one-half the energies of astronomers in the past one hundred and fifty years have been devoted to making and reducing meridian observations. These have given us our star catalogues, containing the extremely accurate positions of one hundred thousand stars. The data contained in these catalogues are the foundation upon which the entire superstructure of mathematical astronomy is built. These collections of star positions, acquired at the cost of great skill, patience, and toil, are perhaps the richest of astronomy's possessions, and their values constantly increase with time."

Every unbiased astronomer will agree with this verdict, but unfortunately this kind of work is sadly neglected by American observatories at the present time. While we might count a score of institutions that have taken up the easy and pleasant pastime of making pictures of the sky, there are to my knowledge only three in the United States besides our own which are making regular meridian observations. I do not wish to give the impression that the newer lines of research have done nothing to advance astronomy—that would be far from the truth; but I do wish most emphatically to state that in my opinion it would be most unwise for our observatory, even were the conditions here more favorable for such lines of work than is the case, to divert any of our energy from the far more important investigations which we now have in progress.

It has always been the policy of this institution, and I trust it will continue to be, to get results of the greatest value to science out of the equipment which we have, rather than to spend money on costly buildings and apparatus which can not be profitably employed. If, therefore, there is to be any enlargement of the resources of the Observatory, I trust it will be directed towards improving the conditions of our present lines of work and providing a larger staff to prosecute it.

Respectfully submitted,

JERMAIN G. PORTER, *Director.*

THE COLLEGE OF ENGINEERING

CINCINNATI, O., December 31, 1908.

To the President of the University of Cincinnati:

SIR—As Dean of the College of Engineering, I have the honor to submit my report for the year ending December 31, 1908.

THE FACULTY.

The following appointments were made to take effect at the opening of the academic year, 1908-09:

Samuel Newton Taylor, Ph. D., Professor of Electrical Engineering.

Howard Alexander Dorsey, B. S., Instructor in Mechanical Engineering.

Joseph Eugene Root, B. S., Instructor in Civil Engineering.

Amor Edward Kistner, Student Assistant in Civil Engineering.

STUDENTS.

The total number of engineering students in the College of Engineering for the year 1908-09 is 190, the enrollment according to classes being as follows:

	C. E.	Ch. E.	E. E.	M. E.	Totals
Seniors	13	3	4	4	24
Juniors	8	8	6	2	24
Sophomores	13	4	4	5	26
Freshmen	16	4	5	1	26
Co-operative Juniors	.....	1	7	6	14
Sophomores	.....	4	13	16	33
Freshmen	.....	1	25	12	38
					185
Specials					5
					190

This is an increase of about twelve per cent over last year, which is all our limited facilities will admit.

In June, 1908, the College of Engineering conferred the degree of Civil Engineer on nine graduates; that of Mechanical Engineer on four; that of Chemical Engineer on two, and that of Electrical Engineer on eight.

Student Organizations.

The Engineers' Club continues to be a strong organization, having an appreciable influence upon the student forces of the Engineering College. The meetings are well attended and enthusiastic. It was through this organization that student self-government was introduced into the College in 1907, and it is a matter of pride to the members of the club that there have been very few cases of discipline reported to their organization. It is a remarkable fact, worthy of special notice, that since the opening of College in September, not one case of disorder has been reported to the Students' Tribunal or to the Dean's office for action. This is a remarkable record when it is remembered that prior to the organization of the Student Government Association the breaches of discipline reported to this office numbered three or four a week. It is gratifying to note this change of attitude on the part of our students, and we should therefore, wherever possible, encourage the efforts of the Engineers' Club. It is without doubt a strong force for good in the College.

Improvements and Additions.

During the past year a new laboratory for metallurgical work was installed.

The electrical engineering laboratory has been removed from the general laboratory to the Engineering annex and has been given quarters of about three times the space it previously had. A new 25 H. P. motor has been installed, and the work has been so arranged that the danger of fire from the electrical apparatus has been entirely removed.

In the department of Mechanical Engineering, there have been installed many new drawing tables, owing to the increased number of students in the Coöperative course. It has also received a Kerr steam turbine, 1 10 H. P. DeLaval steam turbine, one Deane jet condenser with pump, one continuous engine indicator, steam and vacuum gauges, one 23 H. P. gas producer, one 25 H. P. gas engine, and one 8 H. P. gasoline engine, built in the shops of the University.

The equipment of the Civil Engineering department has been increased by the gift from the Board of City Water Works Commissioners of all their models, photographs, borings, etc.

The cement laboratory has increased its equipment to meet the needs of the rapidly growing number of students. A number of drawing tables have been purchased.

Needs of the Various Departments.

Department of Mechanical Engineering.—The equipment of the wood shop, forge shop, and machine shop must be overhauled in the near future and a number of new machines added. A small cupola should be installed and a small foundry equipment added. Since Cincinnati is

the largest machine tool center in the United States, the need of dynamometers to study the performance of efficiency of machine tools is evident.

Department of Electrical Engineering.—This is one of the newest departments in the University, and its equipment has by no means held pace with its growth. The number of machines and testing appliances necessary for the complete equipment of this department is so great as to make it necessary to exclude a detailed statement in this report. The amount necessary for the complete equipment is about $15,000.

Engineering Building.—The College of Engineering was originally eequipped to accommodate forty students. During the past year the number of students entering had to be limited, and a number were refused admission to the Coöperative course by reason of the fact that we simply had no room to accommodate them.

There is every reason to believe that there will be a normal addition each year of about one hundred students, making in the course of four years an Engineering College of about six hundred. At the present time we are working to the limit of our capacity. Indeed, we have had to devise many make-shifts to obtain room for the actual teaching of the theoretical subjects.

The Technical School building will be transferred to the control of the Engineering College next June, and if the south wing is raised to two stories, as proposed, and the central portion rearranged to meet our needs, this building will accommodate our students, so far as the engineering departments are concerned, for two years.

The increase in numbers in the Engineering College has fallen heavily upon the departments of Chemistry and Physics. These two departments are working to the limits of their capacities, and it is therefore necessary to provide them with additional teaching and laboratory space immediately. Two years from now, at the nominal rate of increase, our quarters will be just as crowded, assuming that the additional room is given to us in the Technical building, as they are now with our present space. The urgency of immediate action, therefore, for a new engineering building, is evident. A building to cost $350,000, including equipment, should be provided for at once, so that construction may be begun next summer.

Three Years of the Co-operative Engineering Course.

The Coöperative course is now in its third year of successful operation. At your request, I shall here report in some detail our experiences, especially the pedagogical experience, with this course.

In attempting to give the results of three years of work in the Coöperative system of engineering education, the problem is not so much what to say as to what to omit.

The merit of the Coöperative plan of training engineers in college and shops is now generally admitted. But the skeptical still ask, "Does it work?"

The answer to this is that it has worked, is working, and promises to work more smoothly from year to year. Though the course was started at the high-tide of wide-spread prosperity it has operated smoothly during the lowest ebb following a severe panic. When the plan was first proposed the strongest objection raised to it was the possibility of a complete suspension during a business depression, many critics predicting that when a panic came the manufacturers would send all the students back to the University, and that would be the end of the course. This year, when the effects of the panic are still felt, we have had requests from manufacturers for one hundred additional students. The facilities of our institution, however, permit us to take about seventy new ones at this time. We think we are therefore safe in stating that the plan does work and will continue to work in Cincinnati under all conditions of business.

A feature emphasized when the plan was first put into operation was the unique system of selecting students. I contended for many years that colleges were in great error in not selecting their raw material more carefully and rationally. In the average four-year course any man is admitted who can pass certain examinations of a literary and mathematical nature. No cognizance whatever is taken of any qualifications for the engineering profession the candidate may or may not possess. I shall give here some figures showing the results of our method of selection. The first year during which the course was in operation about sixty young men came to the University and inquired concerning it. Of these forty-five were taken into the shops for their preliminary summer work, and when the University opened in the fall twenty-eight were entered. The second year there were eight hundred inquiries and applications. From these, sixty were selected and sent into the shops in July, and when the College opened in September forty-four were recommended to us and started on their University work. The third year the inquiries and applications approximated two thousand, but owing to the crowded condition of the University in its various departments, only forty-four were selected and sent into the shops for their summer work, of whom forty began their college work in September.

The one thing that stands out prominently in these applications is the large number of young men who desire to become electrical engineers but who do not know why they seek this profession. It is safe to say that not one man out of twenty-five applying for a place in electrical engineering has any idea what electrical engineering means, and yet this is the kind of raw material we are expected to make into engineers. As far as possible, every young man who has entered our course has obtained, before doing so, a fairly good understanding of what this profession is. The young man selected for the coöperative course has a strong physique, has shown aptitude for his particular profession, and his scholastic grades in accredited high schools average ninety. It should be evident that the efficiency of our instruction is increased many per cent by this careful selection of the raw material. The dead wood is eliminated from our classes as soon as it appears, and no laggard is carried indefinitely to the detriment of the work of high-grade students.

To the saving which results from the elimination of the weak brother should be added that obtained by the elimination of the so-called "practice shops" from the University. The University of Cincinnati has "scrapped" its practice shops, and instead, uses the highly organized, well equipped commercial shops of the city. The funds of a university should be used for brains, and not for machines. In many colleges brains are starved in order that the machine equipment may be kept up; and certain colleges of engineering, through striving to become poor imitations of commercial shops, get inefficient faculties at the small salaries paid. If one-third of the money saved under the Coöperative system were put into salaries for the teaching force, engineers who ought to be teaching and who are not doing so because of the small compensation allowed would be attracted to the colleges, and the universities would then be what they ought to be—centers of real learning and research.

In accordance with this economic principle, our College of Engineering teaches its students only such things as they can not learn in practice. It does not attempt to teach the things that can be learned better in a commercial shop or in the engineer's later career. There has resulted, consequently, a departure from the pedagogic system common to engineering colleges, which I consider the most important development of the Coöperative course. During the past year faculty meetings have been held weekly for the sole purpose of threshing out the pedagogic problems. Each teacher was required to furnish the faculty with a complete syllabus of his work. This revealed a remarkable situation. It was found that broad fundamental principles were being taught over and over, not as *basic* principles, but as special rules for special machines. The student failed to grasp the big fact once and for all that these principles were broad, underlying laws, and not ingeniously devised formulas for special cases. A number of courses, for example, in hydraulic machinery, were found to be nothing but compilation of what the student had already had in other subjects, with much descriptive matter taken from machine catalogues. It was found, also, that many of the so-called "technical" courses were merely descriptions of practical work and therefore entirely out of place in the Coöperative system, where the student learns the same things more accurately in the shop. It was further found that in common with all other institutions, we were spending many afternoons on drawing courses the value of which was questionable. Here again a peculiar situation was disclosed. In the case of every subject taught the question of "Why do we teach it?" was required to be answered by the instructor teaching it. The men in charge of drawing, in replying to this question, stated that many of our students would become designers and hence they would have to know how to draw. They acknowledge, however, that the student has a satisfactory and sufficient facility with his instruments at the end of his freshman year. Now, it is well-known that the real designer in a progressive shop spends very little time himself at the drawing-board. If he is an alert man he is in the shop watching the performance of tools; he consults frequently with the salesmen to hear

the objections to his particular machine and to get suggestions for its improvement; he does extensive experimental work, following recent developments at home and abroad; and when he comes to do any designing he sits at a roll-top desk, makes his computations and free-hand sketches, and turns these over to follow-up men who can be obtained for about seventy-five dollars a month. In other words the drafting-room is becoming to the designer what the typewriting room is to the management. For these reasons, we hold that it is much more important for the future designer to spend the afternoons of his college days, after he has learned the necessary elements of drawing, in the laboratory, the library, and in consultation with his professor on research problems, leading to computations and free-hand sketches which can readily be interpreted by an inexpensive follow-up man, than it is for him to spend all this time laboring to become an expert draftsman. Without going further into this matter, suffice it to say that except where drawing instruments are absolutely necessary for certain classes of work, as in kinematics, the long periods of drawing have been eliminated from our course. The student instead, is given definite problems based upon the fundamental principles of physics and required to devote many hours to the laboratory and the library, where he works out his results in the form in which they would go to the drafting-room. In other words, our student is taught first that essential requisite of the engineer—how to tackle a problem in the laboratory and in the library.

For these reasons we have reorganized the teaching system as follows: The first three years of the six-year course are devoted to mathematics and the fundamental sciences, together with the cultural subjects mentioned later. Physics is the backbone of the whole course, for there is not one principle used in engineering which is not to be found in physics. The teaching of physics has been modified in accordance with the same principle. When a student studies the principles of heat, for instance, he is told how they will be applied in his work in thermodynamics. The professor of thermodynamics starts then where the professor of physics has left off, and these principles are not to be taught him again as though he had never had them. On the basis of his work in physics he will at once start on his problems in thermodynamics. After the first three years we cease lecturing to our students and demand of them original work based upon fundamental principles, which work, of course, is guided by the professor, but more after the method of the post-graduate seminar.

Besides the natural sciences there is another science just as important for the engineer, namely, the science of management. This embraces all the problems of shop economics, and these are introduced in the later years, after the student has had three years of experience in the various departments of the shop. Coupled with these sciences, there is a six-year course in the economic, social, political, and industrial development of the human race and two years of general economics. There are also courses in the modern languages, sociology, sanitation, and English litera-

ture. About twenty-five per cent of the University time, as distinguished from the shop time, is devoted to the so-called cultural subjects.

One of the striking things proven each year is that the Coöperative students are more vigorous, mentally and physically, at the end of the session than they are in September. This is to be accounted for partly by the alteration of work and study, and partly by the system of selection. The advisability of a three and a half months' vacation in summer is, therefore, not evident. Consequently it has been decided to operate the Engineering College eleven months of the year on the alternate week basis. That is to say, the College hereafter will open on the 1st of September and will close about the 1st of August. The work in the University during the hot summer months will be of such a character as not to require much night study. The vacation during August will be divided equally between each pair of Coöperative students, one man working while the other is on his vacation, so that the shops will always be full-manned. Objection may be made to this short vacation, but it must be remembered that this course is a man's size and that the average entrance age is between twenty and twenty-one years.

Another new feature is the method of shop co-ordination. The Coöperative engineering course is of six years' duration. There will soon be therefore, six classes, and there will be one shop coördinator for each class. The shop coördinator is a college graduate acquainted with shop practice. He spends every morning at the University and every afternoon in the shops. His function is to make a direct weekly coördination of the work of the shop with the theory of the University. One afternoon, for example, he may be at the shops of a local manufacturing company, where he will observe the student apprentices at their work. He will know what they are turning out, their speeds, feeds, and cuts, the angle of the tool, how the batch of work is ticketed, how the work is set up, the power drive—everything important in connection with the operation. The next week these young men will be grouped together with their classmates for two periods in class, when the coördinator will explain the functions of the particular articles on which the students were working in the machine which the local manufacturing company builds. He will take up all questions of speeds, feeds, cuts, accuracy, etc. Figuratively speaking, he will take from the student apprentices the blinders which would restrict their vision except for this explanatory work. The ticketing of the batch of work is gone into, and the system of shop routine is explained. Ultimately, all problems of shop organization, shop accounting, cost keeping, shop planning, power transmission, heating, ventilating, lighting, etc., are discussed during the six-year course. In conjunction with this, a card system is employed by means of which everything the student does in the shop that exemplifies a theory taught in the University is called in detail to the attention of the teacher of the theory, so that when the student comes to that particular theory the exemplifications that he has had in his practical work in the shop are called

to his attention. It will be seen, then, that out of the student's own experience is drawn much of his course in mechanism, thermodynamics, machine design, strength of materials, shop economics, etc.

The question is frequently asked of us, what is the future development of this course. Prophesying is a rather dangerous business, but, nevertheless, developments have been such as to indicate a radical change in much of the future instruction in engineering colleges. It has been shown already in Cincinnati that the term "Engineering College" is too restrictive. What we shall probably be is a "College of Industrial Science." I spend every afternoon in the various industries of the city investigating the commercial production of the articles manufactured in Cincinnati. It has been shown, for instance, that there is just as much natural science and just as much business science needed for building a piano as for building a dynamo. There are just as many men employed in this manufacture in Cincinnati as in the electrical shops. But, if a college of engineering were to place in its curriculum a course in piano building, a howl of derision would probably arise throughout the educational world. There are many other industries which are considered by engineers minor industries, but which have a basis in science. If the investigator is fair, however, he will discover that a broad and thorough training is just as essential for their successful operation as for the building of a machine tool. Since our colleges are endowed for the benefit of the public, and not to make life's pathway easier for the individual of average caliber whose father can afford to send him to school, it should be obvious that to meet the requirements of the industrial community the college of engineering must broaden into a college of industrial science. If we pursue this investigation a little further we will find that the first three years of work would be the same for the apprentices in the piano factory as for the apprentices in the machine tool or electrical works. After they had received this broad training in the fundamental sciences, the mathematics, and the humanities, the students would enter upon their last three years with one backbone course of specialized study, together with the collateral branches applying to these particular fields of endeavor. The most promising young men from these factories would be selected to take this work. This new development has been brought forcibly to us by manufacturers in these so-called minor, and supposed non-engineering, industries, who have proven to us the great dearth of well-trained men for their work. It is a function of the college of industrial science to prepare these men also. Here, then, is one probable development of the Coöperative system.

In the second place, there will grow up by the side of the College of Industrial Science an Institute of Industrial Research, which will have about the same relation to the college that the research department of the Westinghouse Company bears to its production department. It is a fact well known to educators that a good research man is often a poor teacher and that a good teacher is frequently a poor research man. Yet

we are always trying to make a good teacher do research work, often too, a good research man is held down to a miserable salary because his teaching is not as efficient as it should be. Furthermore, in this country, there is no central bureau of industrial research to which the superintendent of a shop may take his problem and work side by side with a good research man in its solution. Germany has at least one such bureau under national direction, and also many under private or corporation control. The need for such an institution in Cincinnati is shown by the large number of demands made upon the University, since the Coöperative course was started, for assistance in working out industrial problems of various kinds. If Coöperative courses are inaugurated at other institutions, as promises to be the case, they will inevitably become colleges of industrial science, with an institute for industrial research attached. Now, if a number of these universities have research institutes, it is obvious that they should be under one central management, so that a number of separate institutes would not at the same time be working on the same problem. Further, there should be a central office, with a large library, to which all problems should first be submitted. After submission, all the knowledge pertaining to a particular problem should be collated, and then the problem should be referred to the research man or the laboratory best able to handle it. Under the system of central management it is evident that if the best man to do a piece of work were in Cincinnati and the best laboratory in Pittsburg, the man and the laboratory could be brought together to solve the problem. With the influence of a central bureau, a full-sized commercial plant could be obtained if necessary for an actual full-sized experiment. This would mean a national institute of industrial research at the minimum cost. The only expense would be the salaries for the research men, the laboratories being those of the colleges already in operation. It would not necessitate the building of great central laboratories, and it would result ultimately in the establishing of these bureaus at institutions in industrial centers, as, for example, at Boston, New York, Syracuse, Schenectady, Philadelphia, Pittsburg, Cleveland, Cincinnati, Chicago, Minneapolis, etc. In other words, there would be an institute for industrial research close to every manufacturing center, with the best brains of the country available and with no expense for laboratories. As planned at Cincinnati, the Coöperative students in their latter years would assist research men in problems closely allied to their particular work, and we would obtain, therefore, in the production end of manufacture, men trained in the fundamental sciences, the methods of research, and the science of economic production. I believe that this national institute for industrial research operated on these economic and elastic lines, would have as great an influence upon the industrial development of the United States as any plan the colleges could inaugurate. If a foundation of this kind were established it would bring to the colleges of industrial science, without cost, the best research brains obtainable, in exchange for which the colleges would furnish

the laboratories. The limitations of this report will not permit a further exposition of this probable development of the Coöperative course. It is so apparent to us in Cincinnati, that we believe it will be only a matter of a short time before this logical combination of the teaching college and the research institute will exist.

In developing these plans I have held firmly to the principle that the university should be an aggregation of brains, and not machines; that it should furnish the best intellects obtainable in the country for the services of the country. I do not believe that the university should operate shops in imitation of commercial shops and thereby starve the brains of the institution. If a student is to devote thirty-three months of his life to study under skilled instructors, and thirty-three years to practical work, it should be obvious that he must be taught only those things in college that he can not learn outside.

These, then, are the principal developments of three years of the Coöperative system. The plan operates in times of industrial depression or prosperity to the satisfaction of the manufacturers, the students, and the University; a logical combination of theory and practice, closely coördinated, has been worked out; a great waste of the funds provided for education has been eliminated by abolishing the imitation practice shops; the substitution of work in real shops at fair pay has made the college course possible to many more young men and hence has permitted a selection of the raw material for making engineers; and the close contact with industrial life in an industrial center has widened the field of usefulness of the science college and has forecasted an Institute for Industrial Research on elastic and economical lines.

It is gratifying to note the extension of the coöperative plan to other places. A number of institutions in industrial centers have arranged to adopt this course, and it is probable that every industrial city will inaugurate it within the next few years. The fundamental principle has also been taken up by several trade schools and public high schools, and in one or two cases by large industrial concerns which conduct their own schools.

During the past year we have been visited by many manufacturers and educators seeking information or advice concerning the promotion of a similar course in their own vicinities. The Coöperative system is now beyond the experimental stage and has become a permanent and influential part of our University work.

Respectfully submitted,

HERMAN SCHNEIDER, *Dean.*

THE COLLEGE FOR TEACHERS

CINCINNATI, O., December 1, 1908.

To the President of the University of Cincinnati:

SIR—I have the honor to submit the following report as Dean of the College for Teachers for the past year.

Since my last annual report there have been no material changes in the organization, policy, or management of this College. The working agreement between the Board of Education of the City of Cincinnati and the Board of Directors of the University of Cincinnati is still in force, with no disposition on the part of either board to question its wisdom, and the Committee in Charge remains the same.

There have been several changes in the faculty, due chiefly to your ruling that membership in the faculty of this College in the future be limited to those giving technical courses intended for the preparation of teachers as such. Accordingly, the professors in the departments of English, History, Mathematics and Philosophy of the College of Liberal Arts were dropped from our faculty roll. In the absence of Professor Guyer this year, Assistant Professor H. M. Benedict has charge of the courses in "Nature Study," assisted by Miss Box and Mr. Sauer. Dr. H. H. Fick, Supervisor of the German Department of the Cincinnati schools, has charge of the special method course intended for students who are otherwise properly qualified to become teachers of German in the public schools. Miss Elizabeth Hyde, of the Drawing Department of the Cincinnati schools, has charge of the teachers' training course in Art, of which we shall make further mention later in our report. With these exceptions, the faculty of this College remains the same as last year.

In the matter of attendance, the showing for the present year is gratifying. Last year the number of students enrolled in courses given in Burnet Woods by the faculty and instructors of this College was one hundred and fifty-eight; this year, in the corresponding courses, there is an enrollment of two hundred and twenty-nine, an increase of almost fifty-two per cent. This number includes eighteen college graduates, and the total does not take into consideration persons attending conferences for principals and teachers conducted by members of the faculty.

The work of the Cincinnati Kindergarten Training School, which is affiliated with this College, has been expanded by the establishment of departments in Domestic Science and Home Making, in which the College for Teachers sooner or later will become vitally interested. Several im-

portant changes were made in the faculty of this school the past year, including the appointment of Miss Lillian H. Stone, of Cortland, New York, as Principal; Miss Maud Summers, of Boston, to the Department of Home Making, and Miss Bertha Jenney, a recent graduate of the Domestic Science Department of Teachers' College, Columbia University, to the Domestic Science Department.

Among the additions of the year was the establishment of a department for training teachers of art. In a conference with Director Gest, of the Art Academy, it was discovered that there was a considerable demand on the part of students there for teachers' training courses. We also learned that the assistants in the Drawing Department of the public schools of this city change frequently. The Superintendent of Schools and the Supervisor of Drawing were of the opinion that this body of assistants would become more permanent if recruited from properly qualified persons living in this city or vicinity. As a result we decided to inaugurate, in a somewhat tentative fashion, a department for training teachers of art. We were fortunate in securing the services of one of the assistants in the Drawing Department of the Cincinnati schools, who is especially well qualified for training classes in this subject. We had expected a class of a half dozen, perhaps, but were compelled to decline to receive students who presented themselves after the enrollment reached the number of sixteen.

The class meets in a room assigned them for this purpose by the Board of Education in the Avondale Public School. The room is furnished by the Board of Education and is well suited for the purposes of this work. In this room the members of the class spend Tuesdays and Thursdays in the various lines of practical work in art instruction. Monday, Wednesday and Friday afternoons are spent at the University, the mornings of these days being given to the work of observation and practice in various public schools of the city, under the direction of the instructor. Whether this department is to become permanent remains to be seen. This much seems clear, namely, that Cincinnati is a suitable center in which to provide professional training for teachers of art, especially in view of our geographical location and of the excellent art school of whose coöperation we are already assured. The high character of the students enrolled in this department and the ability shown after several years' study in the Art Academy seem to justify the continuance of this department for a few years at least, so as to make it unnecessary for persons who wish to become teachers of art to go to New York or Chicago for what can be provided here with little outlay or inconvenience.

A few regulations concerning degrees and certificates have been agreed upon and are of sufficient importance to mention here:

"1. A student who has fulfilled the requirements for the Bachelor's degree in the McMicken College of Liberal Arts and who, as a part thereof or in addition thereto, has completed one of the programs of professional study provided by the College for Teachers shall be entitled

to receive a certificate conferred by this College indicating the class of educational position for which the bearer is qualified.

"2. Graduates of institutions of high standing such as are recognized by the Graduate School of the University of Cincinnati who, as a part of their college courses or in addition thereto, have completed any one of the programs of professional study provided by the College for Teachers shall be entitled to receive the Bachelor's degree conferred by this College, provided such graduates have been in residence not less than one year."

Aside from the work of instruction in the various courses scheduled in the announcement of this College, courses have been formed for principals and teachers for the presentation and discussion of type lessons. Registration for these classes is not required at the University, and the fact that no college credit is given for this work tends to restrict the membership to those who seek only the higher professional efficiency which these classes are designed to promote.

This brief and hasty review of the past year may be properly closed with a reference to what is, after all, a most remarkable and gratifying condition, namely, the existence of a college having relationships of unusual complexity and a continuance of harmonious coöperation in the midst of conditions where misunderstandings are ordinarily to be expected. That such harmony exists here is high testimony to the intelligence, devotion, and practical wisdom of all connected with the work in which the College is engaged.

At the President's request I append to this report a more detailed statement of the origin, development, and methods of this College.

THE UNIVERSITY OF CINCINNATI PLAN FOR THE PROFESSIONAL TRAINING OF TEACHERS OF DIFFERENT GRADES IN CO-OPERATION WITH THE PUBLIC SCHOOLS.

In our country the professional training of teachers became a subject of general concern with the beginning of the great educational revival of the second quarter of the nineteenth century. Since that time, out of a vast amount of discussion and a great variety of experimentation, steadily increasing with our educational improvement, the various factors necessary in the thorough preparation of the teacher have come to light. In recent decades the results of much scientific inquiry have also been brought to our aid, so that we are now, as we hope, entering upon a period when it is possible for the first time to gather together the valuable contributions of discussion, experiment, and scientific investigation, out of which to form a program for the professional training of the teacher in which no vital element shall be wanting.

We can even be grateful for the variety of provision in the past which not infrequently gave the teacher a one-sided preparation. Each laid stress upon some one principle of excellence. The best way, perhaps, to test the value of any single phase of the teacher's preparation is

to throw upon it the burden of the work which the teacher is called upon to perform. We are grateful, therefore, that the old college of liberal arts has always rigidly insisted and continues to insist upon the importance of general culture as the indispensable qualification of the teacher. The fine achievement often possible to one possessing this single part of a teacher's preparation, along with common sense and tact, has proven its fundamental value. We are likewise indebted to the normal school, because of the emphasis which it laid upon special knowledge of the subjects to be taught and upon the methods of economizing the teacher's practice. Thorough preparation in this direction also, even in the absence of a liberal education, has often accomplished good things. Moreover, we are under obligation to the training school for the stress which it has laid upon practice under the direction and criticism of able teachers; and one who thus learns the teacher's art, without the advantage of a college degree or normal school diploma, can obtain results not to be despised. In a similar manner we have seen the value of the pedagogical department, emphasizing the necessity of insight; and so on through all the various agencies which have been proposed and tried for the professional training and equipment of teachers. They have helped us.

Early Local Experience.

Practically every one of the many proposals for the training of the teacher since the movement began has been tried in the city of Cincinnati. The first step was taken by teachers themselves, and had in view their professional improvement after the business of teaching had actually begun. As early as 1829 two Cincinnati teachers formed an organization out of which grew, two years later, the "Western Literary Institute and College of Professional Teachers." This was probably the first teachers' association for professional training in the United States, and during the fifteen years of its existence, according to Henry Barnard, "it exerted a highly beneficial influence upon teachers, schools, public opinion, legislative action, and public school systems in the West."

Beginning with the early 40's, Cincinnati had in succession all of the well-known agencies for the improvement of teachers after their appointment to positions in the schools. With the establishment of high schools, a few years later, there followed a period of dependence upon them. The usual disappointment in secondary education as adequate preparation for the teacher followed, even after the addition of a so-called normal department, which was discontinued after three years' trial. In 1868 came the City Normal School, the first institution of its kind west of the Alleghenies, with graduation from high school as the condition of entrance. Its course of instruction and training at first covered one year, later it was extended to a year and a half, and later still to two years.

Meanwhile, the University of Cincinnati was becoming a literary and scientific college where teachers could be educated in the subject matter. In the year 1890 the City Normal School was closed, therefore,

in part as a result of the embarrassment of the Board of Education on account of the large number of these short-term Normal School graduates who clamored for appointment in the local schools. As soon as this was done active work for the teachers was begun by the University. At first this consisted of lectures in purely academic subjects given by various University professors, in response to the petition of the teachers themselves. The range of subjects was extended from year to year, and the number attending gradually increased. It was the period of university extension, widely popular at that time, and some courses were next offered for which university credit was given, including courses now and then of a quasi-professional character. Beginning with the new century Saturday classes for teachers were started at the University, and during the years 1901 to 1904 there were summer schools for teachers. The catalog of 1902-03 announces a fragmentary series of courses under the designation "Teachers' College," in which several pedagogical courses were included. There was, however, no faculty or other organization of a separate college and only one instructor in pedagogy was added.

Paving the Way for Advance.

Having tried out these various means of professional training and improvement for the teacher, each of which possessed elements of merit, it remained to formulate a plan insuring that strength which results from their combination into a well rounded curriculum. The opportunity came in Cincinnati with the beginning of the administrations of a new Superintendent of Schools and of a new University President, in 1903 and 1904, respectively. Both were men of unusual preparation for their tasks—men of vision, faith, enthusiasm, and almost unlimited capacity for work. Both were convinced that, in the interest of all its people, all the educational institutions of the city should be brought into closer relations and organically united.

As a means of elevating the standards for the teacher, the Superintendent of Schools first secured action by the Board of Education, in 1903, whereby a preferred list of those who were "college graduates with pedagogical training" was established. This was the beginning of a series of actions which have improved the character of instruction and fostered a professional spirit among teachers as never before in the history of Cincinnati. The Board of Education has also encouraged greater efficiency in the class-room through a system of promotion based upon a fixed amount of pedagogical study. It has adopted, at the same time, a schedule of higher salaries, and has made provision for pensioning teachers.

During the same period the Board of Education has approved, revised, and enriched courses of study for the schools. It has introduced Manual Training and Domestic Science; it has made the Kindergarten an integral part of the public school system; it has more than doubled the school levy. The work of the evening schools has been extended and standardized. Special schools for wayward boys and other special classes have been

established. Medical inspection has been instituted and greater consideration shown, in various ways, for the physical welfare of children. The physical conditions upon which better schools largely depend, have been vastly improved, and the character and extent of the recent school building enterprises of the Board either completed, under way, provided for, or contemplated, challenge the highest admiration. It was in such an atmosphere of progress that the next great step toward the professional training of teachers in this city was taken, and the mention of these various activities affords a partial explanation of how this remarkably long step was possible at this time.

The Municipal University.

The first year of his administration the new University President was engaged chiefly in the study of the general problem. Addressing himself to the question as to whether the institution should be simply a university of the common type or one of an essentially new order, he reached the conclusion that the needs of a modern city, and especially the peculiar relations of the municipal university to the supporting people, were such as to call for a new kind of institution. Our city problems are our greatest problems, surely, and where, if not to its own university, shall the city turn for their solution? Is not our higher education on trial when thus brought out of its isolation and set face to face with the needs of a busy, swarming center of population? Perhaps, after all, it is the fires of our modern city life which shall remove the dross from our traditional academic inheritance, leaving the pure gold to truly enrich our social democracy. These and similar reflections will reveal the meaning of our university activity, now in full swing, of which the College for Teachers was the first result. Such a College for Teachers was, in the opinion of the President, of first concern in that movement. As a recent visitor, President Henry S. Pritchett, of the Carnegie Foundation for the Advancement of Teaching, sees it, such a college is necessary "to take the unit and fit him by training in the fundamentals for the highest community life, intellectual, physical, and moral; and, as a condition precedent thereto, to make of him an agent of economic and industrial efficiency."

Co-operation.

The College for Teachers, therefore, was the first fruits of a general policy formulated by the President for a municipal university conceived as an instrument of the highest service to every important phase of the city's welfare. Its great word is coöperation, now adopted as the technical designation of the plan first applied in this University for using all the existing local establishments, whether public schools, factories, hospitals, social settlements, museums, libraries, zoological gardens, waterworks, gas and electric plants and street railways in the training of men and women for practical life and service. The local industries coöperate

with the Engineering College in the training of engineers, for example, just as the local public schools coöperate with the College for Teachers in the training of teachers. The educational principle involved is the same in both colleges, viz.: the mutual helpfulness of theory and practice to each other, but the organization of the colleges, and especially the method of coöperation, varies as widely as the process of teaching a child differs from that of running a machine; but the principle is the same in all these new enterprises; it is the fundamental democratic principle—coöperation.

In a similar manner, with varying application, the University seeks to coöperate with the existing local institutions in the promotion of all branches of professional education—law, medicine, business, social and political service. The significance of the College for Teachers is seen in the fact that its work is of fundamental importance to all of them, including the interests of the academic scholarship which they presuppose.

Founding the College for Teachers.

The College for Teachers was formally organized in 1905, "under the joint management of the Board of Directors of the University and the Board of Education of this city." Its "Committee in Charge" consists of the President of the University, the Superintendent of Schools, and one representative of each of the boards. Its faculty of instruction consists of a dean and professors of education, assistant professors and instructors, aided by the supervisors of special subjects in the public schools of the city. Where desirable it has at its service the professors of cognate departments in the College of Liberal Arts, and it is affiliated with the Kindergarten Training School and the Art Academy of Cincinnati, both institutions long established and of high reputation. Its programs of professional study now include those fitting for positions in kindergartens, elementary schools, secondary schools, teachers of German in elementary schools and teachers of art in public schools, in addition to various advanced courses for graduate students. Its conditions of admission are the satisfactory completion of approved curricula in a secondary school, as for admission to the College of Liberal Arts, and, in addition, the freshman and sophomore years in a college of recognized standing. The student's time, during the junior and senior years, is divided about equally between elective courses in the College of Liberal Arts and study and training in the College for Teachers. All graduates, except those in training for teaching art, receive the degree of Bachelor of Arts in Education conferred by the College for Teachers, or, if they prefer, they may, by fulfilling the requirements of the College of Liberal Arts, receive the corresponding degree from that college and a professional certificate from the College for Teachers. A generous recognition of the work done by the College for Teachers enables them to do this, the College of Liberal Arts permitting students to elect education as

a major and allowing twenty-four credits in education to count toward its degree. An increasing number of graduates of this and other colleges of liberal arts, having certain prerequisite courses, concentrate their professional study and training in education into a single year, and get our degree at the end of this time.

Recognition and Support.

The graduates of this College are placed upon a preferred list for appointment to positions in the local schools at one hundred and fifty dollars more than the graduates without professional training, the initial salary being six hundred dollars with an annual increase of fifty dollars per annum till the maximum of one thousand dollars in the elementary grades is reached. The influence of these incentives is obvious, and the time is rapidly approaching when practically all vacancies in the schools of this city will be filled by such graduates. In this way the Board of Education has come to the support of this, the highest standard of preparation for the elementary teacher found in the world, and by basing appointment upon merit only, it has made the indispensable condition which gives this College for Teachers an opportunity and a mission found nowhere else, as far as known. Moreover, by authority of recent State legislation the local Board of Examiners is put in position to further promote this professional preparation by granting Elementary Teacher's Certificates to our graduates, without examination, except in Theory and Practice.

Observation and Practice.

Something must be said, also, about the manner of conducting the training or practice work as distinguished from the class-room instruction. Indeed, it is here that this system of coöperation produces best results, and gives to our work its unique character. It is not enough that the teacher have the culture supplied by courses in Liberal Arts, the professional knowledge and insight given in a pedagogical department, or even the special knowledge of subject matter and method upon which the normal school ordinarily lays so much emphasis. These various phases of the student's preparation must be set to work to see if the would-be teacher can effect an integrated combination so as to secure their united force. The important point, the final question is, "Can he teach?" For testing this, the public schools of the city are at the disposal of students under expert direction and guidance.

In the first place, then, the work of observation is done in connection with the practice teaching and in direct preparation for a particular piece of work. All of this work is done in the senior year, parallel with courses in Special Methods, begun in the junior year. The Professor of Elementary Education and his assistants, acting as critic teachers, visit the student-teachers at their work. For immediate and critical supervision

of such preparatory observation and teaching, these students are divided into groups according to the subjects and grades which the critics feel they can supervise most effectively. In preparation for teaching a given subject, the student-teacher is required to observe a class in that subject, from three to nine recitation periods, with definite instructions to become acquainted with the class, at least to the extent of knowing the names of pupils, who are the bright ones and who the dull. In the meantime, the student-teachers are required to read a special method book upon the subject they are to teach, and to prepare first upon the subject-matter, and then upon the method of presentation of the first four or five lessons. Finally, before the practice-teaching begins, their plans are inspected and criticised in individual conference with the critic in charge. In the aggregate the amount of practice work for which this careful preparation is required, is not less than thirty hours per year, each recitation being followed by an individual conference with the supervising critic. Under other circumstances the amount would be vastly increased, but inasmuch as there are positions in the city schools, if they prove to be efficient teachers, for all the graduates receiving this preparation, the supervision of the critics extends over two months' probationary experience of all such graduates. Only after thus being further tested do they become eligible to temporary appointment. Their experience is broadened by service in several grades. For example, a candidate for appointment will spend a morning until recess in a first-grade room, observing all the work of the regular teacher and rendering such assistance as may be needed. For one-half hour the candidate will then take independent charge of the class and teach a lesson. One day in the week the candidate will have charge of the room during the entire time, the regular teacher being absent. After recess the practice-teacher spends her time in some other grade, occupied in a similar manner, and so on.

For reasons easily apparent, the work of the regular teacher of the grade is not a subject of discussion, under any circumstances, the College having no supervision over its work, and thus are maintained the cordial working relations which have existed here. We seek to profit by the regular teacher's experience; not infrequently do we become, in fact, learners ourselves, and, on occasion, when these regular teachers are brought together at the University, it is a real pleasure to greet a large number of them as "members of our faculty."

But this is not the end of our supervision, for, during the first year after temporary appointment the appointees are under the oversight of the department of Elementary Education. This supervision is almost as close, especially of those in obvious need of assistance, as previously, and only after undergoing this final test are candidates eligible to permanent appointment. The fact that appointments are permanent justifies this care in selection, and thus are obviated most of the embarrassing difficulties arising from employing teachers in advance of proven efficiency.

The Interests of Secondary Education.

Provisions for securing the most competent high school teachers follow somewhat different lines. The number necessary from year to year is not so great, and the prevailing practice of candidates is to accept appointment in the elementary schools, afterwards taking the examination for a high school certificate preliminary to making application for some high school position. Many of these young teachers take graduate courses in the University preparing for some special line of teaching while they are getting their preliminary training. An eligible preferred list of such candidates is also prepared under the direction of the Superintendent of Schools. In charge of this list is an assistant professor in the College for Teachers, who also serves as Director of School Affiliation, and in this capacity acts as the official inspector of high schools. For this purpose this officer prepares a table showing the record of each candidate, in college and as a teacher, and personally inspects the candidate's teaching. In the College this professor gives courses in the history, principles and problems of secondary education at hours which do not conflict with classroom duties of candidates, so that those teaching in the elementary schools may supplement their previous training with a view to teaching in a high school.

These high school candidates are provided with suitable opportunity for observation and practice in a regular public school of secondary grade in two ways. A certain number of such candidates possessing superior qualifications receive appointments in the local high schools with the rank of "Instructor," from which they may be promoted to the rank of "Teacher," or recommended for appointment elsewhere, when vacancies occur and after giving proof of marked ability as teachers. These are given substitute work. Another plan favors an apprenticeship relation between the candidate and the regular teacher in the high school, in which the candidate may fulfill the practice requirements while he renders valuable assistance to the regular teacher. This last plan was started upon the suggestion and initiative of one of the high school principals. It is welcome evidence of the satisfactory character of the work which the college is doing, and another illustration of how all of the educational institutions of the city may "work together for good."

Determining the Rank of a Teacher.

In general, the rank of a candidate for appointment, whether in the elementary or secondary schools, is determined by the average of the college record, the grade attained in the examination before the Board of Examiners, which must be not less than eighty, and the mark representing his practical ability as a teacher. In the case of candidates for high school positions there is also included a mark based upon the amount and character of college work in the subject which the candidate proposes to teach, and due consideration is given to the amount and character of

his teaching experience. In no case, however, will a candidate be eligible to appointment without a high mark showing superior teaching ability, and graduates of other institutions wishing to become candidates for appointment to positions in the Cincinnati schools, subject to the general regulations already indicated, may do so after an inspection of their teaching, for which opportunity is provided.

Helping Teachers Already Employed.

Another important aim of the College for Teachers is to afford opportunities for professional growth and advancement to the teachers already at work. In so far as these opportunities are needed in the direction of academic instruction, they are supplied by a large number of special courses for teachers in the College of Liberal Arts, given both at the University and at convenient centers, on Saturdays and afternoon or evening hours which do not conflict with the class-room duties of teachers. In a similar manner the faculty of the College for Teachers meets the professional needs of teachers, conducting, in addition to the ordinary courses of professional instruction, grade conferences, "model lessons," with groups of children before teachers and principals, round tables, discussions, etc., the aim being to bring the class-room teaching to a higher state of perfection and to inject the ideals of the University into the school system. The number of courses of all kinds taken by teachers the past year amounted, in the aggregate, to more than the total number of teachers in the entire public school system of this city, about sixty per cent of the persons being enrolled in one or more courses given in some department of the University. In other words, out of eleven hundred teachers in the public schools over six hundred and fifty this year took one course or more each week in the University.

Permanence Assured.

Partly as a cause and partly as a result of these varied activities, an added degree of permanence for this College was assured two years ago by definite articles of agreement between the Board of Education and the Board of Directors of the University, whereby the College for Teachers is to include in its curriculum such professional work in education as the interests of the local schools demand, in consideration of which the Board of Education pays the salaries of professors, assistant professors, and instructors in the College for Teachers, at the same time giving them the liberty to offer other courses in the college, so long as it does not interfere with their professional service to the city school system. This wise provision imposes no hardship or vexatious limitations upon either board or the interests which they represent. It furnishes a splendid basis of coöperation. It keeps the College close to the schools and the schools close to the College, and brings the University into harmony with the democratic ideal of education of the people, by the people and for the people. Well has

the President of the University said in his last annual report, "The College for Teachers stands, perhaps, in more vital relations with the life of the people of Cincinnati than any other department of the University. To make it illustrate by its service the ideals of the University of the city is our earnest desire and purpose." On the one hand, all of the other colleges of the University recognize their dependence upon the success of this College for an improved quality and an increased number of students from the public schools of this city. On the other hand, the public school authorities have imposed upon this College the responsibility for improving the teaching force of the city. Thus does this College become an important agency for establishing a community of interest between all phases of education in the city of Cincinnati.

Such is the story, in briefest compass, of this newest type of institution for the training of teachers, of the mission it has marked out for itself, and of an intelligent coöperative plan for fulfilling at least some part of this mission. There are, of course, many problems of adjustment remaining to be solved, new proposals to be considered, modifications to be made, new features to be added; but enough has already been accomplished to justify a hopeful outlook for the future. As an example of the coöperative idea in educational administration, within a special field, we hope the College for Teachers may furnish some suggestions to other centers of population having local colleges or universities, and may show in a new way, that "in union there is strength."

Respectfully submitted,

WM. P. BURRIS,

Dean of the College for Teachers.

in part as a result of the embarrassment of the Board of Education on account of the large number of these short-term Normal School graduates who clamored for appointment in the local schools. As soon as this was done active work for the teachers was begun by the University. At first this consisted of lectures in purely academic subjects given by various University professors, in response to the petition of the teachers themselves. The range of subjects was extended from year to year, and the number attending gradually increased. It was the period of university extension, widely popular at that time, and some courses were next offered for which university credit was given, including courses now and then of a quasi-professional character. Beginning with the new century Saturday classes for teachers were started at the University, and during the years 1901 to 1904 there were summer schools for teachers. The catalog of 1902-03 announces a fragmentary series of courses under the designation "Teachers' College," in which several pedagogical courses were included. There was, however, no faculty or other organization of a separate college and only one instructor in pedagogy was added.

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	Volumes.	Pamphlets.
Arkansas—Bureau of Mines, Manufactures and Agriculture	11	..
Bliss, Eugene F	5	..
Brown, Mrs. E. M	369	83
Canada—Geological Survey	11	8
Canada—Royal Society	3	..
Carnegie Institution at Pittsburg	3	..
Carnegie Institution at Washington	22	..
Chicago University (by exchange)	..	36
Cincinnati University—Office of the Clerk	31	..
Columbia University (by exchange)	..	73
Dabney, President Charles William	9	1
Davis, William Henry, estate of	10	2
Field, Miss Fanny	16	13
Georgia—Geological Survey	3	..
Harry, Prof. J. E	..	13
Hicks, Prof. F. C	8	3
Hodges, N. D. C	9	..
Hopkins, Miss Rebecca	16	..
Idaho—State Inspector of Mines	..	4
Illinois—State Geological Survey	3	4
Indiana—Department of Geology	6	..
Iowa—Geological Survey	6	..
Ives, Prof. J. E	4	..
James, Davis L	2	..
Kinsella, A. J	3	..
Louisiana—Geological Survey	1	2
Maine—State Library	25	7
Marvin, F. R	2	..
Maryland—Geological Survey	17	5
Maxwell, Miss Caroline	2	..
Maxwell, Walter H	3	..
May, Max B	9	Box unbound periodicals
Michigan—Geological Survey	7	1
Montana—Geological Survey	2	..
Nebraska—Geological Survey	1	1
New Jersey—Geological Survey	21	6
New York—State Library	9	20
North Dakota—State Geological Survey	..	3
Ontario, Canada—Minister of Education	7	..
Pittsburg—Carnegie Library	9	..
Raymond, G. L	3	..
Sauer, Mrs. L. W	21	..
Schmuck, T. K	2	..
Stearns, F. P	5	..

	Volumes.	Pamphlets.
Thayer, Rev. G. A.	1	..
Thilly, L. A.	40	..
U. S. Government	69	473
Vermont—State Geologist	3	..
Washington—Academy of Science	9	..
Winslow, J. F.	1	..
Wisconsin—State Historical Society	9	2

Notable Additions.

Among the important purchases for the year are the following:
Catholic Encyclopedia, 4 volumes.
Jewish Encyclopedia, 12 volumes.
Revue des Bibliothèques, 17 volumes.
Revue Historique, volumes 1 to 71 (completes the set).
Historische Zeitschrift, volumes 1 to 92 (completes the set).
Niles Weekly Register, 73 volumes.
Cotgrave, *Dictionary of French and English*, London, 1650.
Dryden, complete works edited by Saintsbury, 18 volumes.
Schmid, *Geschichte der Erziehung*, 7 volumes.
Journal of Geology (complete).
Sammlung Elektrotechnischer, Vorträge.
Sévingné, *Lettres*, 14 volumes.
La Fontaine, *Oeuvres*, 12 volumes.
Bulletin of the Geological Society of America, 19 volumes.
Proceedings of the Society of Psychical Research, 20 volumes.
Murray, *New English Dictionary.*
Archiv für Geschichte der Philosphie, 13 volumes.
Année Psychologique, 10 volumes (complete set).
Pausanius, *Greece*, 6 volumes.
Muret-Sanders, *Encyclopädisches Wörterbuch.*
Merguet, *Lexikon zu Den Reden des Cicero.*
Aristophanes, facsimile of the codex Marcianus.
Zeitschrift für Deutsche Philologie, 32 volumes.

Cataloguing Department.

During the year 3,351 volumes were catalogued as follows:

Titles catalogued with typewritten cards	1,118
Titles catalogued with Library of Congress cards	781
Titles recatalogued	415
Added entries and continuations	1,037
	3,351

The total number of cards made during the year was 10,668:

Typewritten cards	6,339
Library of Congress cards	2,489
American Library Association cards	404
Cards sent to professors	1,302
Cards made for Brühl catalogue	134
	10,668

The card catalogue is now estimated to contain about 165,000 cards. The current work of the department is now up-to-date, with the exception of about 150 titles which have just been received. There still remains much back work to be done, as the following table shows:

Brühl collection	750	titles
(134 titles were catalogued during the past year)		
Brown collection	275	"
Incunabula, manuscripts, and rareties	200	"
Whitaker books	350	"
Miscellaneous books which have been sent to the shelves uncatalogued	500	"

There seems to be no way to get this work done along with the current work. I therefore suggest that an assistant cataloguer be appointed to devote all her time to this work.

In July, 1908, Miss C. L. Tracey resigned the position of head cataloguer to become an instructor in cataloguing at Pratt Institute. The position has not yet been filled as it seemed advisable to devote the money appropriated for her salary for the payment of the salaries of four student assistants, who have assisted in the reorganization of the Library by doing tasks which required time rather than expert knowledge.

A working list of the Library of the American Association for the Advancement of Science has been made so that the works in this Library are now accessible. In doing this the entire collection of books and pamphlets had to be reshelved.

The collection of duplicates has been arranged, preparatory to having lists of them made to be sent to other libraries for the purpose of exchange. The extra publications of the University have been rearranged so that now it is possible to tell exactly how many there are in stock. The shelves in the stack have been read with the exception of those between the numbers 530-830. This is very slow work, as it takes the time of not only the Librarian but of an assistant as well. This work has to be done on Saturdays and during the vacations when other work is not pressing. In the course of this work many duplicates are rejected, unbound books are sent to the binders, errors in classification and numbering are corrected, and sets of books little used are sent to the fourth floor to make room for new books.

Reffrence and Circulating Department.

No record is kept of the total number of readers who consult the Library, nor is there a record kept of the use of books on the open shelves or of books in department libraries. Therefore all statistics which are given below should be taken with reservations:

	Reference Use	Home Use	Total
December, 1907	1,351	183	1,534
January, 1908	1,244	287	1,531
February, "	2,100	328	2,428
March, "	2,223	356	2,579
April, "	1,779	438	2,217
May, "	1,767	431	2,198
June 1 to September 19, 1908	170	542	712
September 21 to 30, 1908	479	179	658
October, 1908	1,462	796	2,258
November, "	1,121	455	1,576
Totals	13,696	3,995	17,691

During the year the Library has borrowed books from many other libraries, among them being the Public Library of Cincinnati, Young Men's Mercantile Library Association, Columbia University Library, American Academy of Arts and Sciences, Boston, Harvard University Library, Library of the University of Wisconsin, and others.

Seminar and Department Libraries.

During the year several new department libraries have been established and many books have been added to the old department libraries. The books in these libraries, with very few exceptions, are of a technical nature which are more used by the graduate students in a department if they are convenient to the laboratories and class-rooms. Valuable and rare books are still kept in the main library. The following table shows the size of these libraries:

Greek Seminar (in Van Wormer Library)	156	volumes
Biology	380	"
Chemistry	1,659	"
Civil Engineering	230	"
Electrical Engineering	28	"
Geology	823	"
History	51	"
Latin	233	"
Mechanical Engineering	113	"
Physics	193	"
	3,866	"

There is a risk in having these books placed beyond the control of the library administration, but the increased usefulness of the books more than offsets the danger from loss or fire.

Respectfully submitted,

CHARLES ALBERT READ,

Librarian.

REPORT OF THE DEAN OF WOMEN

CINCINNATI, O., December 2, 1908.

To the President of the University of Cincinnati:

SIR—It is a pleasure to report the growing earnestness of the women students in the whole round of their activities.

The average of scholarship is about the same as for the past two years, but it is maintained with less friction and urgency on the part of the authorities. With the same teachers and the same routine of exercises and marking, there have been far fewer failures and warnings of defective work. In those who come under my immediate notice in the classroom, I find an active and intelligent interest in research greater than in former years; and all are making fuller use of the Library. The woman's rest-room, too, has become in large measure a room for study.

Class organization was fully completed during the past year. I must confess that it was celebrated by an alarming number of festivities, each class entertaining and being entertained by all the others. But I made little objection, trusting to the good sense of the students to recognize the undue waste of time and energy. I only restricted the freshmen and discontinued my own social afternoons at the University, which had evidently served their purpose. I was made guest instead of hostess, and I found the gatherings conducted with grace and dignity. This fall their number has been voluntarily reduced.

The action of the faculty in raising the number of required hours and allowing four within the total for athletics is producing good results. Practically the standard of the faculty is unchanged, but the student views it differently. Gymnasium work is now a privilege, being rated as exemption from, instead of addition to, academic work. But no excuse is taken for absence from the lectures on hygiene, although they do not count for hours. The thirty or more dressing-rooms added this fall are a great comfort, but there is pressing need for more shower-baths. There is space for three, perhaps four; and I should be glad if the Board could have them put in during the Christmas holidays.

Reports from the Dean of Women must necessarily be meagre or repetitive until the building of a woman's dormitory or gymnasium shall enlarge the field of her duties.

I can only say that, such as they are, they have fallen into an ease of routine that leaves room for more.

The number in the several classes this year are:

Seniors	42
Juniors	55
Sophomores	52
Freshmen	68
Specials	17
Irregulars	9
Total	243

Respectfully submitted,

M. E. J. CZARNOMSKA,

Dean of Women.

REPORT OF THE CLERK

CINCINNATI, O.

To the Honorable Board of Directors of the University of Cincinnati:

GENTLEMEN—I respectfully submit herewith my report of the finances of the University for the fiscal year ended December 31, 1908. I have incorporated in this report *first,* a statement of actual receipts and disbursements of funds in the City Treasury, as carried in the Budget; *second,* a statement showing the income and expenditures under each of the funds in the City Treasury, as well as the funds deposited in the various banks; *third,* a recapitulation showing all the income and expenditure of the University and its various departments except the "Special Fund" (which has been contributed by various citizens and placed in the hands of Rev. Henry M. Curtis as trustee), and certain money appropriated by the Board of Education to assist in the maintenance of the College for Teachers. Neither of these latter two pass through the hands of the Board of Directors, and hence do not appear upon our books. Nor does the stipend supporting the Fellowship in American History founded by the local Chapter of the Daughters of the American Revolution.

On April 1 the executors of the estate of Mary P. and Eliza O. Ropes transferred to the University the real estate bequeathed

by these ladies, and shortly thereafter the personal property of the estate of Miss Mary P. Ropes was received. This adds to the duties of the Clerk the management, under the supervision of the Committee on Real Estate, of an estate estimated at from $75,000 to $100,000.

In June the Board adopted a resolution offered by the Committee on University Buildings and Grounds, which discontinued the position of Superintendent of Buildings and transferred to the Clerk the duties of that position, and also the supervision of laborers on the grounds and janitors in the buildings. This change is in line with the idea proposed by the Committee on Finance when the office of the Board was moved to the University Buildings, and makes a further consolidation of duties and a consequent saving of money.

The rules of the Board require the Clerk to issue to citizens, and visitors to the city, permits to visit the Observatory. During the year permits were issued to 2,575 persons. This is an increase of 571 over the year 1907 and shows that the privilege is appreciated.

STATEMENT No. 1.

ACTUAL RECEIPTS AND DISBURSEMENTS

(FUNDS IN CITY TREASURY.)

RECEIPTS.

GENERAL FUND.		
Balance January 1, 1908	2,205 41	
Taxes	124,330 53	
Tuition College of Liberal Arts	6,313 50	
" College of Engineering	9,818 50	
" College for Teachers	42 00	
" Graduate School	45 00	
Students Fees—		
Late registration	133 00	
Supplemental examination	268 00	
Diploma	585 00	
Library	5,660 00	
Auditor's fees	865 00	
Fines—Library	10 00	
The Press—Job printing	643 88	
Privileges—		
Historical and Philosophical Society of Ohio	800 00	
Lunch-room	200 00	
Miscellaneous Sources—		
Old typewriter	20 00	
From Observatory, pro rata of expenses of Clerk's office	300 00	
Old paper	41 61	
Law department, share of Commencement expenses	85 00	
Medical department, share of Commencement expenses	115 00	
Bell Telephone Co., refunder	66 00	
Catherine Tracy, refunder	75 00	
		152,622 43
McMICKEN FUND.		
Balance January 1, 1908	1,589 18	
Rents	26,481 05	
From Insurance Companies—Fire loss	1,909 79	
		29,980 02
Amount carried forward		$182,602 45

Amount brought forward		182,602 45
THOMS FUND.		
Balance January 1, 1908	1,086 16	
Rents	6,924 96	
		8,011 12
ROPES FUND.		
Rents	2,506 50	
Interest on invested funds	12 00	
From W. H. Neilson, refunder on allowance for lectures	75 00	
		2,593 50
BROWNE FUND.		
Balance January 1, 1908	31 78	
Interest on investment	729 10	
		760 88
OBSERVATORY FUND.		
Balance January 1, 1908	3,284 56	
Taxes	12,433 06	
From Bell Telephone Co., refunder on bill	15 00	
		15,732 62
DEXTER FUND.		
Balance January 1, 1908	70 00	
Interest on investment	35 00	
		105 00
JONES FUND.		
Balance January 1, 1908	90 00	
Rents	60 00	
		150 00
SINTON FUND.		
Balance January 1, 1908	547 39	
Interest on investment	3,000 00	
		3,547 39
MEDICAL DEPARTMENT FUND.		
Balance January 1, 1908	7,944 99	
Fees	13,164 13	
		21,109 12
LAW DEPARTMENT FUND.		
Balance January 1, 1908	62 90	
Fees	8,053 00	
Net income from college property	5,000 00	
		13,115 90
CO-OPERATIVE SCHOLARSHIP FUND.		
Balance January 1, 1908	18 00	
From the Lodge & Shipley Machine Tool Company for scholarship	200 00	
		218 00
Amount carried forward		$247,945 98

Amount brought forward		247,945 98
LAURA SEASONGOOD FUND.		
Balance January 1, 1908		5 48
HANNA FELLOWSHIP FUND.		
From Endowment Fund Association		500 00
COLONIAL DAMES FELLOWSHIP FUND.		
From the Society of Colonial Dames		300 00
C. G. COMEGYS SCHOLARSHIP FUND.		
From Endowment Fund Association		50 00
CARNEGIE PENSION FUND.		
From the Carnegie Foundation		673 32
Grand Total		$249,474 78

DISBURSEMENTS.

OFFICE OF THE BOARD:		
Clerk	2,500 00	
Assistant	1,200 00	
Books and stationery	106 00	
Telephone	90 00	
Postage	55 00	
Messenger service	173 80	
Carfares	35 00	
Miscellaneous	31 00	
		4,190 80
UNIVERSITY OFFICES:		
President	9,900 00	
Secretary	1,000 00	
Registrar	1,000 00	
General Clerk	720 00	
President's secretary	900 00	
Secretary's stenographer	600 00	
Dean of Women	1,500 00	
Director of Music	500 00	
Stenographers for Deans	1,824 00	
President's messenger	210 00	
Pianist	50 00	
Amount carried forward	$18,204 00	$4,190 80

Amount brought forward	18,204 00	4,190 80
Additional clerical help, Secretary's office	47 90	
Postage for Secretary	732 11	
General postage	435 54	
Books, stationery and office supplies	514 37	
Advertising	611 37	
Freight and hauling	373 63	
Carfares	54 25	
Telephones	288 55	
Miscellaneous—Sundries ... 359 68		
French lectures ... 70 00		
	429 68	
Traveling expenses	815 33	
Public exercises	874 09	
		23,380 82
HEAT AND POWER:		
Engineer	1,020 00	
Fireman	638 00	
Supplies	156 46	
Coal	1,998 81	
Gas and electric service	1,134 87	
		4,948 14
MAINTENANCE.		
Janitors ... Wages	2,877 75	
Night watchman ... "	600 00	
Gardeners ... "	704 00	
Foreman of grounds ... "	663 00	
Mechanician ... "	1,100 00	
Utility man ... "	904 16	
Superintendent of Buildings ... "	200 01	
Keeper of athletic field ... "	598 67	
Taxidermist ... "	1,000 00	
Insurance	247 00	
Janitor's supplies	510 07	
Repairs (including $428.63 for painting and $325.00 architect's fee)	6,223 26	
Miscellaneous	490 43	
Furniture and fittings	4,089 84	
Improvement of grounds	3,234 23	
		23,442 42
CONSTRUCTION ACCCOUNT:		
Plumbing in full of contract, fourth floor of McMicken Hall	.....	100 00
SINKING FUND AND INTEREST	.....	7,804 00
COLLEGE OF LAW	.....	1,000 00
Amount carried forward	.....	$64,866 18

REPORT OF THE DEAN OF WOMEN

CINCINNATI, O., December 2, 1908.

To the President of the University of Cincinnati:

SIR—It is a pleasure to report the growing earnestness of the women students in the whole round of their activities.

The average of scholarship is about the same as for the past two years, but it is maintained with less friction and urgency on the part of the authorities. With the same teachers and the same routine of exercises and marking, there have been far fewer failures and warnings of defective work. In those who come under my immediate notice in the classroom, I find an active and intelligent interest in research greater than in former years; and all are making fuller use of the Library. The woman's rest-room, too, has become in large measure a room for study.

Class organization was fully completed during the past year. I must confess that it was celebrated by an alarming number of festivities, each class entertaining and being entertained by all the others. But I made little objection, trusting to the good sense of the students to recognize the undue waste of time and energy. I only restricted the freshmen and discontinued my own social afternoons at the University, which had evidently served their purpose. I was made guest instead of hostess, and I found the gatherings conducted with grace and dignity. This fall their number has been voluntarily reduced.

The action of the faculty in raising the number of required hours and allowing four within the total for athletics is producing good results. Practically the standard of the faculty is unchanged, but the student views it differently. Gymnasium work is now a privilege, being rated as exemption from, instead of addition to, academic work. But no excuse is taken for absence from the lectures on hygiene, although they do not count for hours. The thirty or more dressing-rooms added this fall are a great comfort, but there is pressing need for more shower-baths. There is space for three, perhaps four; and I should be glad if the Board could have them put in during the Christmas holidays.

Reports from the Dean of Women must necessarily be meagre or repetitive until the building of a woman's dormitory or gymnasium shall enlarge the field of her duties.

I can only say that, such as they are, they have fallen into an ease of routine that leaves room for more.

Amount brought forward			159,956 39
COLLEGE FOR TEACHERS:			
Salaries			2,333 33
GRADUATE SCHOOL:			
Dean, salary			400 00
EXTERNAL COURSES, 1907-08:			
Compensation for lecturers			1,267 40
LIBRARY:			
Librarian		1,500 00	
Loan-desk assistant		600 00	
Cataloguers		1,297 35	
Librarian of Historical and Philosophical Society		500 00	
Janitor		540 00	
Messenger		240 00	
Binding periodicals and rebinding books		900 40	
Labels and stationery		67 87	
New books and periodicals		5,704 55	
Sundry costs—			
Typewriter	95 25		
Dues	15 00		
Extra help	116 17		
Sundries	63 08		
		289 50	
			11,639 67
PRESS:			
Foreman		943 05	
Compositors		126 00	
Pressman		444 75	
Folders		213 75	
Paper and board		1,043 00	
Ink		16 00	
Accessories		7 76	
Linotype composition		443 72	
Binding		20 35	
Type		9 04	
Other costs		295 14	
			3,562 56
SCHOLARSHIP FUNDS:			
Loaned to students in Coöperative Course		218 00	
Stipend for C. G. Comegys scholar		50 00	
Stipend for Colonial Dames Fellow		300 00	
			568 00
Amount carried forward			$179,727 35

REPORT OF THE CLERK

CINCINNATI, O.

To the Honorable Board of Directors of the University of Cincinnati:

GENTLEMEN—I respectfully submit herewith my report of the finances of the University for the fiscal year ended December 31, 1908. I have incorporated in this report *first*, a statement of actual receipts and disbursements of funds in the City Treasury, as carried in the Budget; *second*, a statement showing the income and expenditures under each of the funds in the City Treasury, as well as the funds deposited in the various banks; *third*, a recapitulation showing all the income and expenditure of the University and its various departments except the "Special Fund" (which has been contributed by various citizens and placed in the hands of Rev. Henry M. Curtis as trustee), and certain money appropriated by the Board of Education to assist in the maintenance of the College for Teachers. Neither of these latter two pass through the hands of the Board of Directors, and hence do not appear upon our books. Nor does the stipend supporting the Fellowship in American History founded by the local Chapter of the Daughters of the American Revolution.

On April 1 the executors of the estate of Mary P. and Eliza O. Ropes transferred to the University the real estate bequeathed

Amount brought forward		199,494 21
MEDICAL DEPARTMENT:		
Professor of Physiology	1,299 99	
Professor of Chemistry	1,000 00	
Secretary	2,500 00	
Clerk	720 00	
Drug clerk	270 00	
Janitors	1,255 00	
Care of student's room	55 00	
Fuel	167 58	
Supplies	1,142 07	
One barrel of alcohol	46 23	
Repairs	123 02	
Laundry	25 00	
Advertising	178 25	
Postage	131 12	
Equipment	172 17	
Telephones	113 02	
Stationery	121 50	
Demonstrations	1,477 43	
Hospital privileges	500 00	
Furniture and fittings	257 35	
Sundries	36 28	
Light	158 93	
Insurance	131 25	
Commencement exercises	353 45	
Faculty medal	40 00	
Printing catalogues, etc	329 68	
Traveling expenses	89 55	
		12,693 87
LAW DEPARTMENT:		
Compensation of faculty		13,091 64
CARNEGIE PENSION FUND:		
Allowances paid retired professors		367 91
Total Disbursements of Funds in City Treasury		$225,647 63

STATEMENT No. 1.

ACTUAL RECEIPTS AND DISBURSEMENTS

(FUNDS IN CITY TREASURY.)

RECEIPTS.

GENERAL FUND.		
Balance January 1, 1908	2,205 41	
Taxes	124,330 53	
Tuition College of Liberal Arts	6,313 50	
" College of Engineering	9,818 50	
" College for Teachers	42 00	
" Graduate School	45 00	
Students Fees—		
Late registration	133 00	
Supplemental examination	268 00	
Diploma	585 00	
Library	5,660 00	
Auditor's fees	865 00	
Fines—Library	10 00	
The Press—Job printing	643 88	
Privileges—		
Historical and Philosophical Society of Ohio	800 00	
Lunch-room	200 00	
Miscellaneous Sources—		
Old typewriter	20 00	
From Observatory, pro rata of expenses of Clerk's office	300 00	
Old paper	41 61	
Law department, share of Commencement expenses	85 00	
Medical department, share of Commencement expenses	115 00	
Bell Telephone Co., refunder	66 00	
Catherine Tracy, refunder	75 00	
		152,622 43
McMICKEN FUND.		
Balance January 1, 1908	1,589 18	
Rents	26,481 05	
From Insurance Companies—Fire loss	1,909 79	
		29,980 02
Amount carried forward		$182,602 45

Amount brought forward		182,602 45
THOMS FUND.		
Balance January 1, 1908	1,086 16	
Rents	6,924 96	
		8,011 12
ROPES FUND.		
Rents	2,506 50	
Interest on invested funds	12 00	
From W. H. Neilson, refunder on allowance for lectures	75 00	
		2,593 50
BROWNE FUND.		
Balance January 1, 1908	31 78	
Interest on investment	729 10	
		760 88
OBSERVATORY FUND.		
Balance January 1, 1908	3,284 56	
Taxes	12,433 06	
From Bell Telephone Co., refunder on bill	15 00	
		15,732 62
DEXTER FUND.		
Balance January 1, 1908	70 00	
Interest on investment	35 00	
		105 00
JONES FUND.		
Balance January 1, 1908	90 00	
Rents	60 00	
		150 00
SINTON FUND.		
Balance January 1, 1908	547 39	
Interest on investment	3,000 00	
		3,547 39
MEDICAL DEPARTMENT FUND.		
Balance January 1, 1908	7,944 99	
Fees	13,164 13	
		21,109 12
LAW DEPARTMENT FUND.		
Balance January 1, 1908	62 90	
Fees	8,053 00	
Net income from college property	5,000 00	
		13,115 90
CO-OPERATIVE SCHOLARSHIP FUND.		
Balance January 1, 1908	18 00	
From the Lodge & Shipley Machine Tool Company for scholarship	200 00	
		218 00
Amount carried forward		$247,945 98

STATEMENT No. 1.

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(FUNDS IN CITY TREASURY.)

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Balance January 1, 1908	18 00	
From the Lodge & Shipley Machine Tool Company for scholarship	200 00	
		218 00
Amount carried forward		$247,945 98

Amount brought forward		247,945 98
LAURA SEASONGOOD FUND.		
Balance January 1, 1908		5 48
HANNA FELLOWSHIP FUND.		
From Endowment Fund Association		500 00
COLONIAL DAMES FELLOWSHIP FUND.		
From the Society of Colonial Dames		300 00
C. G. COMEGYS SCHOLARSHIP FUND.		
From Endowment Fund Association		50 00
CARNEGIE PENSION FUND.		
From the Carnegie Foundation		673 32
Grand Total		$249,474 78

DISBURSEMENTS.

OFFICE OF THE BOARD:		
Clerk	2,500 00	
Assistant	1,200 00	
Books and stationery	106 00	
Telephone	90 00	
Postage	55 00	
Messenger service	173 80	
Carfares	35 00	
Miscellaneous	31 00	
		4,190 80
UNIVERSITY OFFICES:		
President	9,900 00	
Secretary	1,000 00	
Registrar	1,000 00	
General Clerk	720 00	
President's secretary	900 00	
Secretary's stenographer	600 00	
Dean of Women	1,500 00	
Director of Music	500 00	
Stenographers for Deans	1,824 00	
President's messenger	210 00	
Pianist	50 00	
Amount carried forward	$18,204 00	$4,190 80

Amount brought forward		18,204 00	4,190 80
Additional clerical help, Secretary's office		47 90	
Postage for Secretary		732 11	
General postage		435 54	
Books, stationery and office supplies		514 37	
Advertising		611 37	
Freight and hauling		373 63	
Carfares		54 25	
Telephones		288 55	
Miscellaneous—Sundries	859 68		
French lectures	70 00		
		429 68	
Traveling expenses		815 33	
Public exercises		874 09	
			23,380 82
HEAT AND POWER:			
Engineer		1,020 00	
Fireman		638 00	
Supplies		156 46	
Coal		1,998 81	
Gas and electric service		1,134 87	
			4,948 14
MAINTENANCE.			
Janitors	Wages	2,877 75	
Night watchman	"	600 00	
Gardeners	"	704 00	
Foreman of grounds	"	663 00	
Mechanician	"	1,100 00	
Utility man	"	904 16	
Superintendent of Buildings	"	200 01	
Keeper of athletic field	"	598 67	
Taxidermist	"	1,000 00	
Insurance		247 00	
Janitor's supplies		510 07	
Repairs (including $428.63 for painting and $325.00 architect's fee)		6,223 26	
Miscellaneous		490 43	
Furniture and fittings		4,089 84	
Improvement of grounds		3,234 23	
			23,442 42
CONSTRUCTION ACCCOUNT:			
Plumbing in full of contract, fourth floor of McMicken Hall		.....	100 00
SINKING FUND AND INTEREST		.....	7,804 00
COLLEGE OF LAW		.....	1,000 00
Amount carried forward		.....	$64,866 18

Amount brought forward			64,866 18
COLLEGE OF LIBERAL ARTS:			
Dean	Salary	400 00	
Biology	"	5,641 66	
Chemistry	"	3,843 33	
Physics	"	6,733 32	
Economics	"	3,500 00	
History	"	5,300 01	
Mathematics	"	6,133 32	
Philosophy	"	2,865 57	
Geology	"	2,886 68	
Psychology	"	3,225 00	
English	"	5,275 02	
German	"	5,266 66	
Romance Languages	"	4,266 66	
Latin	"	4,500 00	
Greek	"	3,600 00	
Bible	"	1,000 00	
Physical Training	"	2,622 16	
Political Science	"	833 31	
*Physics department supplies		111 06	
*Supplies for other departments—			
Gymnasium	55 03		
Physics	4 90		
Museum	3 33		
Psychology	130 62		
History	126 00		
Metallurgy	20 00		
Geology	638 57		
		978 45	
COLLEGE OF ENGINEERING:			68,982 21
Dean	Salary	400 00	
Civil Engineering	"	5,771 66	
Mechanical Engineering	"	5,171 66	
Electrical Engineering	"	3,066 67	
Chemical Engineering	"	4,766 66	
Applied Mathematics		2,500 00	
*Supplies—			
Civil Engineering		5 00	
Mechanical Engineering		1,287 41	
Electrical Engineering		1,675 61	
Chemical Engineering		246 46	
Summer School, salaries		891 65	
" " supplies		325 22	
			26,108 00
Amount carried forward			$159,956 39

* See also Special Supply and Apparatus Fund, page 121.

Amount brought forward			159,956 39
COLLEGE FOR TEACHERS:			
Salaries			2,333 33
GRADUATE SCHOOL:			
Dean, salary			400 00
EXTERNAL COURSES, 1907-08:			
Compensation for lecturers			1,267 40
LIBRARY:			
Librarian		1,500 00	
Loan-desk assistant		600 00	
Cataloguers		1,297 35	
Librarian of Historical and Philosophical Society		500 00	
Janitor		540 00	
Messenger		240 00	
Binding periodicals and rebinding books		900 40	
Labels and stationery		67 87	
New books and periodicals		5,704 55	
Sundry costs—			
Typewriter	95 25		
Dues	15 00		
Extra help	116 17		
Sundries	63 08		
		289 50	
			11,639 67
PRESS:			
Foreman		943 05	
Compositors		126 00	
Pressman		444 75	
Folders		213 75	
Paper and board		1,043 00	
Ink		16 00	
Accessories		7 76	
Linotype composition		443 72	
Binding		20 35	
Type		9 04	
Other costs		295 14	
			3,562 56
SCHOLARSHIP FUNDS:			
Loaned to students in Coöperative Course		218 00	
Stipend for C. G. Comegys scholar		50 00	
Stipend for Colonial Dames Fellow		300 00	
			568 00
Amount carried forward			$179,727 35

Amount brought forward		.....	179,727 35
JONES PRIZE FUND:			
For prizes, Jones Oratorical contest—			
Louis D. Gross, first prize		40 00	
Emanuel Jacubowitz, second prize		20 00	
			60 00
McMICKEN ESTATE:			
For repairs to buildings of estate		1,832 81	
For insurance on buildings of estate		610 02	
For annuity		1,000 00	
			3,442 83
ROPES ESTATE:			
For repairs to buildings of estate		230 35	
For insurance on buildings of estate		434 00	
For compensation of professors in chair of Comparative Literature		850 00	
			1,514 35
THOMS ESTATE:			
For repairs to buildings of estate		260 63	
For insurance on buildings of estate		40 56	
			301 19
OBSERVATORY:			
Director		3,000 00	
Instructors		3,100 00	
Computor		800 00	
Attendant		200 00	
Janitor		600 00	
Printing and stationery		178 77	
Postage		30 00	
Heat and light		103 85	
Insurance		12 50	
Books and periodicals		31 24	
Telephone		90 00	
Furniture and fittings		76 98	
Miscellaneous—			
Sundries	76 53		
Share of office expenses	300 00		
		376 53	
Improvements and repairs—			
Purchase of lot	5,250 00		
Clock vault	228 00		
Lantern	55 00		
Repairs	215 62		
		5,748 62	
			14,448 49
Amount carried forward			$199,494 21

Amount brought forward		199,494 21
MEDICAL DEPARTMENT:		
Professor of Physiology	1,299 99	
Professor of Chemistry	1,000 00	
Secretary	2,500 00	
Clerk	720 00	
Drug clerk	270 00	
Janitors	1,255 00	
Care of student's room	55 00	
Fuel	167 58	
Supplies	1,142 07	
One barrel of alcohol	46 23	
Repairs	123 02	
Laundry	25 00	
Advertising	178 25	
Postage	131 12	
Equipment	172 17	
Telephones	113 02	
Stationery	121 50	
Demonstrations	1,477 43	
Hospital privileges	500 00	
Furniture and fittings	257 35	
Sundries	36 28	
Light	158 93	
Insurance	131 25	
Commencement exercises	353 45	
Faculty medal	40 00	
Printing catalogues, etc	329 68	
Traveling expenses	89 55	
		12,693 87
LAW DEPARTMENT:		
Compensation of faculty		13,091 64
CARNEGIE PENSION FUND:		
Allowances paid retired professors		367 91
Total Disbursements of Funds in City Treasury		$225,647 63

RECAPITULATION.

Total receipts, funds in City Treasury	249,474 78
Total disbursements, funds in City Treasury	225,647 63
Clerk's balance December 31, 1908	23,827 15
OUTSTANDING VOUCHERS:	
President Charles William Dabney, General Fund	5 18
John Funke, McMicken Fund	6 50
Chester R. Reed, McMicken Fund	20 00
W. F. Tomlinson, McMicken Fund	12 00
M. E. J. Czarnomska, McMicken Fund	27 25
S. W. Kittering, Thoms Fund	12 75
City Auditor's balance	$ 23,910 83

FUNDS:		Clerk's Balance Dec. 31, 1908	City Auditor's Balance Dec. 31, 1908
General Fund		4,117 01	4,122 19
Observatory Fund		1,312 13	1,312 13
Medical Fund		8,415 25	8,415 25
Law Fund		24 26	24 26
TRUST FUNDS:			
Sinton Fund	505 89		
Laura Seasongood Fund	48		
McMicken Fund	5,765 42		
Thoms Fund	1,146 78		
Browne Fund	657 27		
Hanna Fund	333 35		
Jones Fund	90 00		
Dexter Fund	77 00		
Ropes Fund	1,076 90		
Carnegie Fund	305 41		
		9,958 50	10,037 00
Clerk's balance December 31, 1908		23,827 15	
Outstanding Vouchers—General Fund		5 18	
" " Trust Funds		78 50	
City Auditor's balance to credit of University Funds December 31, 1908		$ 23,910 83	$23,910 83

STATEMENT No. 2.

STATEMENTS OF THE CONDITION OF THE VARIOUS FUNDS OF THE UNIVERSITY AND ITS DEPARTMENTS

GENERAL FUND

This fund contains taxes (five-tenths of a mill on the duplicate of Cincinnati), tuition and other fees paid by students in the College of Liberal Arts, College of Engineering, Graduate School, and College for Teachers, fees from concessions, and all miscellaneous income of the University.

JANUARY 1 TO DECEMBER 31.

Balance January 1, 1908		2,205 41	
Receipts		150,417 02	
Disbursements			148,505 42
Balance December 31, 1908			4,117 01
		$152,622 43	$152,622 43
Clerk's balance Dec. 31, 1908	4,117 01		
Outstanding voucher	5 18		
City Auditor's balance December 31, 1908	$4,122 19		

Against this balance there are outstanding claims for supplies and equipment purchased but not delivered, amounting to $1,428.67.

McMICKEN FUND.

This endowment consists of Cincinnati real estate devised by Charles McMicken as follows:

Unimproved property	27,300 00
McMicken homestead (occupied by College of Medicine)	90,016 00
Improved property	397,540 00
Total	$514,856 00

RECEIPTS:		
Balance January 1, 1908	1,589 18	
Rents	26,481 05	
From Fire Insurance Companies, fire loss	1,909 79	
DISBURSEMENTS:		
For insurance of buildings of estate		610 02
For repairs of buildings of estate		1,832 81
For annuity as required by will		1,000 00
For general University purposes		20,771 77
Balance December 31, 1908		5,765 42
	$29,980 02	$29,980 02

Clerk's balance Dec. 31, 1908	5,765 42	
Outstanding vouchers	65 75	
City Auditor's Balance December 31, 1908		$5,831 17

Against this balance ($5,765.42) there are bills for supplies ordered but not delivered, amounting to $1,030.51.

THOMS FUND

This fund endows a chair in Civil Engineering. Any part of this income not needed for this purpose can be used for general University purposes.

The endowment consists of Cincinnati real estate devised by Matthew Thoms, as follows:

Unimproved property		2,300 00
Improved property		111,383 00
		$113,683 00
RECEIPTS:		
Balance January 1, 1908	1,086 16	
Rents	6,924 96	
DISBURSEMENTS:		
Repairs		260 63
Insurance		40 56
Salary of Thoms Professor of Civil Engineering		3,000 00
General University purposes		3,563 15
Balance December 31, 1908		1,146 78
	$8,011 12	$8,011 12

Clerk's balance Dec. 31, 1908	1,146 78	
Outstanding vouchers	12 75	
City Auditor's balance Dec. 31, 1908		$1,159 53

Against the Clerk's balance ($1,146.78) there are bills for supplies ordered but not delivered, amounting to $969.58.

BROWNE FUND

This endowment is a part of the estate of Rev. Samuel J. Browne, and consists of—

Unimproved real estate, Lots 238-257, Samuel J. Browne's Subdivision	2,150 00
City of Cincinnati refunding 3½% bonds, par value	17,000 00
City of Cincinnati Waterworks 3½% bond	500 00
City of Cincinnati School 3.65% bond	500 00
City of Cincinnati Sinking Fund 3.65% bond	100 00
Cincinnati, Lebanon & Northern Ry. 5% bond, guaranteed by the Penn. Ry. Co., due Jan. 2, 1916	1,000 00
	$21,250 00

RECEIPTS:		
Balance January 1, 1908	31 78	
Interest on investments	729 10	
DISBURSEMENTS:		
University purposes		103 61
Balance December 31, 1908		657 27
	$760 88	$760 88

City Auditor's balance Dec. 31, 1908 $657 27

Against this balance ($657.27) there are bills for books ordered but not delivered, amounting to 461.35.

SINTON FUND

This endowment consists of $100,000 donated to the University by David Sinton in 1899, and invested in City of Cincinnati new Water Works 3 per cent bonds, which mature August 1, 1939. This fund endows the chair of Economics.

RECEIPTS:		
Balance December 31, 1907	547 39	
Interest	3,000 00	
DISBURSEMENTS:		
Salary Sinton Professor of Economics		3,000 00
General University purposes		41 50
Balance in Sinton Fund, Dec. 31, 1908		505 89
	$3,547 39	$3,547 39

City Auditor's balance Dec. 31, 1908, $505 89

ROPES FUND

This fund was bequeathed by the Misses Mary P. and Eliza O. Ropes, and was given to endow a chair in Comparative Literature.

At present the real estate of both bequests has been turned over to the Board of Directors (having been transferred in April, 1908), but the personalty belonging to the estate of Miss Eliza O. Ropes has not yet been received.

The endowment consists of Cincinnati real estate and railroad stocks estimated to be worth—

Estates of Mary P. and Eliza O. Ropes		73,817 00
Estate of Mary P. Ropes:		
Fifty shares Rutland R. R. preferred stock, par value.		5,000 00
Eight shares Northern R. R. of New Hampshire stock, par value		800 00
Nine shares Boston & Lowell R. R. stock, par value		900 00
		$80,517 00
RECEIPTS:		
Rents, from April 1, 1908	2,506 50	
Interest on invested funds	12 00	
Refunder on allowance to Prof. W. H. Neilson for lectures	75 00	
DISBURSEMENTS:		
Repairs to buildings of estate		230 35
Insurance on buildings of estate		434 00
University purposes		2 25
Compensation of Professors in chair of Comparative Literature		850 00
Balance December 31, 1908		1,076 90
	$2,593 50	$2,593 50
City Auditor's Balance December 31, 1908 $1,076 90		

OBSERVATORY FUND

Derived from a tax of .05 mill upon the duplicate of the city of Cincinnati.

RECEIPTS:		
Balance January 1, 1908	3,284 56	
Taxes	12,448 06	
DISBURSEMENTS		14,420 49
Balance December 31, 1908		1,312 13
	$15,732 62	$15,732 62

City Auditor's balance Dec. 31, 1908, $1,312 13

Against this balance ($1,312.13) there are bills for apparatus and supplies ordered but not delivered, amounting to $1,120.00.

DEXTER ENDOWMENT FUND (Observatory)

Consists of $1,000 donated by Julius Dexter for Observatory purposes, and is invested in city of Cincinnati refunding 3½ per cent bonds.

Balance January 1, 1908	70 00	
Interest	35 00	
DISBURSEMENTS		28 00
Balance December 31, 1908		77 00
	$105 00	$105 00

City Auditor's balance Dec. 31, 1908, $77 00

MEDICAL DEPARTMENT FUND.

Derived entirely from fees paid by students in the College of Medicine.

RECEIPTS:		
Balance January 1, 1908	7,944 99	
Fees	13,164 13	
DISBURSEMENTS		12,693 87
Balance December 31, 1908		8,415 25
	$21,109 12	$21,109 12

City Auditor's balance Dec. 31, 1908, $8,415 25

LAW DEPARTMENT FUND

Derived from fees paid by students in the College of Law, and the net income from the endowment of the College.

RECEIPTS:		
Balance January 1, 1908	62 90	
Fees, etc	13,053 00	
DISBURSEMENTS		13,091 64
Balance December 31, 1908		24 26
	$13,115 90	$13,115 90

City Auditor's balance Dec. 31, 1908, $24.26

LAURA SEASONGOOD FUND.

A bequest of $800 received from Miss Laura Seasongood, the income to be used to establish a "Laura Seasongood Alcove" in the Library. This legacy, less thirty dollars collateral inheritance tax is on deposit at the Union Savings Bank and Trust Company at three per cent. The income is drawn by check, signed by the Chairman and Clerk of the Board of Directors, and deposited in the city treasury upon the order of the Board.

Balance in city treasury January 1, 1908	5 48	
Disbursements		5 00
Balance in city treasury December 31, 1908		48
	$5 48	$5 48

City Auditor's balance Dec. 31, 1908 ..... $0 48

There is on December 31, 1908 in accrued interest, at the Union Savings Bank and Trust Company, $84.52.

CARNEGIE PENSION FUND

This fund consists of money received from the Carnegie Foundation in payment of allowances granted by that foundation to retired professors.

Income	673 32
Disbursements	367 91
Balance	$305 41

SCHOLARSHIP FUND

This fund is provided for such moneys as are received from year to year from individuals or societies for the purpose of establishing scholarships and fellowships.

RECEIPTS:		
Endowment Fund Association	550 00	
Society of Colonial Dames	300 00	
DISBURSEMENTS:		
Ralph Cummins, Corneilus G. Comegys Fellow		50 00
C. F. Colburn, Colonial Dames Fellow, 1907-1908		150 00
C. S. Sweeney, Colonial Dames Fellow, 1908-1909		150 00
R. E. C. Gowdy, Hanna Fellow in Physics		166 65
Balance in Hanna Fund, Dec. 31, 1908		333 35
	$850 00	$850 00
City Auditor's Balance, Dec. 31, 1908 $333 35		

CO-OPERATIVE COURSE SCHOLARSHIP OR STUDENT'S LOAN FUND.

In this fund are deposited moneys received from individuals or firms interested in the Coöperative Engineering Courses, and given to the University for the purpose of assisting worthy students in these courses. The money is loaned to such students, their notes being taken to guarantee its repayment to the University after their graduation.

RECEIPTS:		
Balance January 1, 1908	18 00	
The Lodge & Shipley Machine Tool Co., for Academic year 1908-1909	200 00	
DISBURSEMENTS:		
Loaned to students in Academic year 1908-1909		218 00
	$218 00	$218 00

JONES FUND.

This fund consists of a ninety-nine-year leasehold to a lot on Central Avenue, between Bank and Dayton streets, donated by Major Frank J. Jones, the income of which is to be used each year for two prizes in oratory.

RECEIPTS:		
Balance January 1, 1908	90 00	
Twelve months' rent	60 00	
DISBURSEMENTS:		
Louis D. Gross, first prize		40 00
Emanuel Jacubowitz, second prize		20 00
Balance December 31, 1908		90 00
	$150 00	$150 00

City Auditor's balance Dec. 31, 1908 ..... $90 00

JONES INSTRUCTION FUND.

This fund was donated by Mr. Frank J. Jones, to be used to pay for instruction given to contestants for the Jones Oratorical Prize. It is on deposit at the Union Savings Bank and Trust Company, at three per cent.

RECEIPTS:		
Balance in bank January 1, 1908	119 82	
Interest	3 59	
Balance December 31, 1908		123 41
	$123 41	$123 41

Union Savings Bank and Trust Company, balance December 31, 1908 ..... $123 41

CONTINGENT FUND.

This fund is placed in the hands of the Clerk of the Board of Directors and is used to pay wages of laborers, for purchase of stamps, car tickets, and all other purposes requiring a cash payment. At each meeting of the Board of Directors the Clerk submits a detailed voucher, supported by receipts for each item of expenditure.

On deposit at the Cincinnati Trust Company	500 00
Cash on hand	100 00
	$600 00

TECHNICAL SCHOOL FUND.

This fund is derived partly from fees paid by students in the Technical School and partly from donations, and is on deposit at the Cincinnati Trust Company.

RECEIPTS:

Balance January 1, 1908	1,354 06	
Tuition	2,625 00	
Donations	800 00	
From sale of old iron, etc.	7 85	
Transferred from Breakage Deposit, unrefunded balance from year 1907-1908	49 30	
From Cincinnati Trust Company, interest on deposit	11 35	
Students' deposits	30 00	

DISBURSEMENTS:

Salaries—Principal		1,200 00
Instructors		2,125 00
Janitor		540 00
Supplies—Shops		42 33
Postage		5 00
Fire insurance		126 25
Sundry expense		37 78
Balance Dec. 31, 1908		801 20
	$4,877 56	$4,877 56

Cincinnati Trust Company, balance December 31, 1908 ..... $801 20

TECHNICAL SCHOOL FUND (Breakage Account)

Derived from deposits made by students to cover possible damage to the school property. At the end of the school-year any charges are deducted from the amount paid in and placed to the credit of the Technical School Fund, the balance being returned to the students. This account has been closed out, the balance on hand, $49.30, having been transferred to the Technical School Fund.

RECEIPTS:

Balance January 1, 1908	155 15	

DISBURSEMENTS:

Refunded to students		105 85
Transferred to Technical School Fund		49 30
	$155 15	155 15

SPECIAL SUPPLY AND APPARATUS FUND.

Derived from fees paid by students for attendance upon laboratory courses. The amounts collected on account of each department are credited to that department, and used exclusively for the purchase of apparatus and supplies to be used by the students paying the fees. It is deposited at the Union Savings bank and Trust Company.

DEPARTMENT OF PHYSICS.

RECEIPTS:		
Balance January 1, 1908	603 11	
Fees	1,155 00	
DISBURSEMENTS:		
For supplies		719 60
Balance December 31, 1908		1,038 51
	$1,758 11	$1,758 11

DEPARTMENT OF BIOLOGY.

RECEIPTS:		
Balance January 1, 1908	445 37	
Fees	2,085 00	
DISBURSEMENTS:		
For supplies		2,060 00
Balance December 31, 1908		470 37
	$2,530 37	$2,530 37

DEPARTMENT OF PSYCHOLOGY.

RECEIPTS:		
Balance January 1, 1908	30 00	
Fees	40 00	
DISBURSEMENTS:		
For supplies		12 45
Balance December 31, 1908		57 55
	$70 00	$70 00

BREAKAGE DEPOSIT ACCOUNT

Derived from deposits made by students to cover possible damage to property of the University while engaged in laboratory work. At the end of the academic year any charges are deducted from the amount paid in, and credited to the proper account in the Special Supply and Apparatus Fund, the balance being returned to the students. It is deposited at the Central Trust and Safe Deposit Company as a savings account at three per cent interest.

RECEIPTS:		
Balance January 1, 1908	1,694 55	
Deposits by students	1,927 88	
Interest on deposit	33 68	
DISBURSEMENTS:		
Refunders paid students		1,288 11
Transferred to Special Supply and Apparatus Fund		574 08
Balance December 31, 1908		1,793 92
	$3,656 11	$3,656 11

Central Trust and Safe Deposit Co., balance December 31, 1908 ..... $1,793 92

ART DEPARTMENT.

RECEIPTS	170 00	
DISBURSEMENTS:		
For supplies		54 21
Balance December 31, 1908		115 79
	$170 00	$170 00

CLERK'S BALANCE

DECEMBER 31, 1908.

Department of Physics	1,038 51	
Department of Biology	470 37	
Department of Psychology	57 55	
Department of Art Training	115 79	
Department of Chemistry	1,769 79	
Department of Civil Engineering	326 08	
Department of Mechanical Engineering	732 79	
Department of Electrical Engineering	268 04	
		4,778 92
Outstanding Checks:		
No. 435		17 65
No. 446		4 45
No. 460		1 60
No. 478		3 30
No. 480		44 27
No. 483		12 50
No. 488		2 35
No. 492		1 50
No. 502		2 06
No. 503		18 15
No. 505		100 25
No. 506		4 75
No. 512		4 00
No. 513		45
No. 515		4 80
Bank's balance December 31, 1908		$5,001 00

BREAKAGE DEPOSIT ACCOUNT

Derived from deposits made by students to cover possible damage to property of the University while engaged in laboratory work. At the end of the academic year any charges are deducted from the amount paid in, and credited to the proper account in the Special Supply and Apparatus Fund, the balance being returned to the students. It is deposited at the Central Trust and Safe Deposit Company as a savings account at three per cent interest.

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Balance January 1, 1908	1,694 55	
Deposits by students	1,927 88	
Interest on deposit	33 68	
DISBURSEMENTS:		
Refunders paid students		1,288 11
Transferred to Special Supply and Apparatus Fund		574 08
Balance December 31, 1908		1,793 92
	$3,656 11	$3,656 11

Central Trust and Safe Deposit Co., balance December 31, 1908 ..... $1,793 92

THE PRESS

Cost of Printing.

Receipts:		
Job printing	643 88	
Expenditures		3,562 56
Deficit	2,918 68	
	$3,562 56	$3,562 56

The University Press was closed on July 1, 1908, and not opened again during the year. Printing during that time was done by contract. The cost of printing for the year may be shown by the following statement:

Cash deficit as shown above		2,918 68
Add bills of 1908 carried to 1909	417 70	
Stock carried from 1907	329 00	
		746 70
		3,665 38
Credit:		
Bills of 1907 paid in 1908	187 50	
Stock on hand (estimated)	50 00	
		237 90
Net cost of printing during 1908		$3,427 48

STATEMENT No. 3.

CONDENSED STATEMENT OF TOTAL INCOME AND EXPENDITURES FOR ALL DEPARTMENTS AND FUNDS.

	Receipts	Expenditures	Balance
General Fund	152,622 43	148,505 42	4,117 01
McMicken Fund	29,980 02	24,214 60	5,765 42
Thoms Fund	8,011 12	6,864 34	1,146 78
Browne Fund	760 88	103 61	657 27
Sinton Fund	3,547 39	3,041 50	505 89
Ropes Fund (from April 1, 1908)	2,593 50	1,516 60	1,076 90
Observatory Fund	15,732 62	14,420 49	1,312 13
Dexter Fund	105 00	28 00	77 00
Medical Department Fund	21,109 12	12,693 87	8,415 25
Law Department Fund	13,115 90	13,091 64	24 26
Laura Seasongood Fund	5 48	5 00	48
Scholarship Funds	850 00	516 65	333 35
Co-operative Loan Fund	218 00	218 00	.....
Carnegie Pension Fund	673 32	367 91	305 41
Jones Prize Fund	150 00	60 00	90 00
Total Funds in City Treasury	$249,474 78	$225,647 63	$23,827 15
Jones Instruction Fund	123 41	.....	123 41
Technical School Fund	4,877 56	4,076 36	801 20
Special Supplies and Apparatus Fund—			
Physics Department	1,758 11	719 60	1,038 51
Biology Department	2,530 37	2,060 00	470 37
Psychology Department	70 00	12 45	57 55
Chemistry Department	4,503 57	2,733 78	1,769 79
Civil Engineering Department	776 62	450 54	326 08
Mechanical Engineering Dep't	876 34	143 55	732 79
Electrical Engineering Dep't	358 00	89 96	268 04
Art Training Department	170 00	54 21	115 79
	$265,518 76	$235,988 08	$29,530 68

City Auditor's Balance, Funds in City Treasury, $23,910.83

Correct. (Signed) GEO. FRIEDLEIN.
Deputy Auditor.

UNIVERSITY OF CINCINNATI

Balance Sheet December 31, 1908 .

ASSETS.			
Fixed Assets.			
McMicken Hall	116,354 19		
Cunningham Hall	60,000 00		
Hanna Hall	58,806 18		
Van Wormer Library	59,948 49		
Technical building	30,000 00		
Cincinnati Observatory real estate	15,500 00		
Cincinnati Observatory building	8,000 00		
Mitchel Observatory building	5,661 95		
Janitor's house, Observatory	2,500 00		
Medical College building	50,000 00		
Medical College Clinic building	12,000 00		
Total Fixed Assets			418,770 81
Passive Assets.			
Scientific Equipment:			
History Department	199 00		
Chemistry Department	11,860 73		
Physics Department	14,401 25		
Biology	12,405 79		
Geology	1,137 97		
Greek Department, museum	1,015 58		
Psychology	1,108 59		
Physical Training	562 05		
Art	10 05		
Civil Engineering Department	4,957 59		
Mechanical Engineering Department	12,146 73		
Electrical Engineering Department	8,048 48		
Technical School	6,995 15		
Museum	6,691 75		
Observatory	31,501 30		
The Press	6,368 81		
The Medical College	10,000 00		
The Library of books, etc	130,000 00		
		259,410 82	
Amount carried forward		$259,410 82	$418,770 81

Amount brought forward	709,056 00	30,215 20	729,731 90
Browne Endowment	21,230 00		
Jones Endowment	1,000 00		
Seasongood Endowment	770 00		
Dexter Endowment	1,000 00		
Sinton Endowment	100,000 00		
		833,076 00	
Total Active Assets			863,291 20
Coöperative Engineering students notes			947 00
Sinking Fund			36,708 10
Total Assets			$1,630,678 20
LIABILITIES.			
Outstanding obligations			5,492 72
Bond issue			100,000 00
Net worth			1,525,185 48
Total Liabilities			$1,630,678 20

NOTE—STOCKS AND BONDS figured at par value.

REAL ESTATE VALUES based upon last Decennial Appraisement estimating same to be approximately 60% of value.

COLLEGE BUILDINGS figured at cost as nearly as possible.

50,000 VOLUMES OF BOOKS and 20,000 pamphlets in Van Wormer and Department Libraries, values averaged at $2.50 for the books and 25 cents for the pamphlets.

VALUE OF CAMPUS, forty-three acres in Burnet Woods, not included, as same may be considered a part of the City Park area.

VALUE OF SCIENTIFIC EQUIPMENT AND FURNITURE AND FIXTURES of Medical College estimated.

CERTAIN MONEY INTENDED FOR ENDOWMENT of the University but given to the Endowment Fund Association not included, as the University Board has no control of same.

The above respectfully submitted,

DANIEL LAURENCE, *Clerk.*

AMERICAN AGRICULTURIST.

University of Cincinnati Record

Series I. Vol. VI. No. 2. NOVEMBER, 1909

Annual Report and Announcement

of

The University Settlement

1909

Published by the University of Cincinnati, at the
University Press, Cincinnati, Ohio.

Entered as second-class matter May 24, 1909, at the post-office at Cincinnati, Ohio,
under the act of July 16, 1894.

Series I. Vol. VI. No. 2.
NOVEMBER, 1909

University of Cincinnati Record

Annual Report and Announcement

OF

THE UNIVERSITY SETTLEMENT

1909-1910

Settlement Home:
224 West Liberty St.

Summer Home:
New Richmond, Ohio.

FOUNDED IN 1899
BY PROFESSOR PHILIP VAN NESS MYERS

ISSUED MONTHLY FROM OCTOBER TO JUNE

PUBLISHED BY THE UNIVERSITY OF CINCINNATI,
AT THE UNIVERSITY PRESS,
BURNET WOODS, CINCINNATI, OHIO.

THE NEW YORK
PUBLIC LIBRARY
P 204704
ASTOR, LENOX AND
TILDEN FOUNDATIONS.
R 1910 L

Officers of
The University Settlement Association
1909

BOARD OF TRUSTEES.

SENIOR CLASS—Albert Groenland, 1910.
JUNIOR CLASS—Lucy Pfleger, 1910.

FACULTY—Guy A. Tawney, 1910; Robert C. Brooks,1911; John W. Hall, 1912.

ALUMNAL ASSOCIATION—Frances Hollingshead, M. D., 1910; Ralph Holterhoff, 1910; Viola Pfaff, 1911; Herman Bayless, 1911.

MEMBERS AT LARGE—Harry M. Levy, 1910; George A. Thayer, D.D., 1910; Harry G. Pounsford, 1911; Wm. Cooper Procter, 1911; Mrs. Wm. Cooder, 1912.

MEMBERS EX-OFFICIO—Chas. Wm. Dabney, President of University; Frank Newton Miner, Resident Director.

OFFICERS.

GEORGE A. THAYER, D.D., President.
MRS. WILLIAM COODER, Vice President. VIOLA PFAFF, Secretary.
WM. COOPER PROCTER, Treasurer.

STANDING COMMITTEES.

FINANCE—Wm. Cooper Procter, Harry M. Levy, Harry G. Pounsford, Ralph Holterhoff.

SETTLEMENT WORK—Prof. Robert C. Brooks, Prof. Guy A. Tawney, Prof. John W. Hall, Albert Groenland, Lucy Pfleger.

HOUSE—Frances Hollingshead, M. D., M. Edith Campbell, Viola Pfaff, Mrs. Frank Miner.

SUMMER HOME—Herman Bayless, George A. Thayer, D. D., Mrs. William Cooder, Mrs. Alvina Reinecke.

RESIDENTS 1908-1909.

FRANK N. MINER. LOUISE M. MINER. HELENA MULLENHAGEN.
L. OLIVER HARTMANN. EARL BROCK.

NON-RESIDENT WORKERS 1908-1909.

E. D. Allgaier, M.D. (a); Esther Baker (s); Edna Baum (s); Alice Bell (s); C. W. Broeman (s); Audley Brown (s); Rosa M. Buerger (s); Jeanie M. Clark (s); Albert S. Fouts; Kathryn French; Hortense Geigerman (s); Irma Grogg (s); John M. Hammond (s); Mable Huling (s); Henrietta Huling (s); Ellen Kiely (a); Josephine Krueck (s); Mary Latta (a); Frieda Lotze (a); Mable McGlaughlin (s); Robert McKibbin (s); Mrs. K. E. R. Mosher; Richard Paulsen (s); Viola Pfaff (s); Helena Ratterman (s); M. Katherine Ratterman (a); Louise Robenstein (s); Mamie Roessell; Louise Schrader (s); Else Schrauder (a); Laura Schroerlucke (s); R. N. Scott; Gladys Sellew (s); A. DeWitt Shockly; Starbuck Smith (a); Fanny Stewart; Nida Louise Tilghman (s); Valerie Weil (a); Gratchen Wulff; Norma Young (a); Estelle Pressler (s); Estelle Trusler; Edward Sussdorff; W. S. Keller, M. D.; Jacob L. Tuechter, M. D.; Marguerite Parker (s); Iola Shafer (s).

s. University students. a. Alumni.

RESIDENTS 1909-1910.

Frank N. Miner and Louise M. Miner, Head Residents.

Joseph H. Kindle, Instructor Department of Mathematics, University.

James R. Trimble, Instructor Department of Mathematics, University.

Reed Smith, Ph.D., Instructor Department of English, University.

Estelle Trusler, Nurse Christ Hospital.

Botsford McRae, Class 1913, University.

Helena Mullenhagen, Student in Music.

THE SETTLEMENT HOME, 224 West Liberty St.

THE PRESIDENT'S REPORT.

The University Settlement has during the last year resumed the activities which center around its residence at 224 West Liberty Street.

For a time, under another policy of the former head worker who distributed his interests in civic betterment about the city elsewhere, not making his home in the Liberty Street house, the people of the immediate neighborhood lost touch with our settlement, and the subscriptions of a good many of the early contributors to our maintenance fund fell off.

Now, under the different ideas of the present head workers, Mr. and Mrs. Miner, we are trying to recover some of our lost ground and to make those people of the West End of the city, whose home life is not such as it should be, feel that at our building they have friends who come to live among them for their help in all ways which look towards enlarged happiness and usefulness, especially in the art of saving and spending wisely, and of creating conditions in their households which shall make these homes attractive to all their members, especially to the men and boys whose main pleasure resorts at present are the streets, saloons and cheap theaters.

The modern social settlement, of which ours is an example, is meant to be a typical American home, presided over by intelligent men and women who wish to be on cordial terms with all their neighbors, and who invite these neighbors, especially the boys and girls, to come there for rational amusement, for talks about profitable matters, and for light upon all the problems of a great city which make honest and clean living difficult.

This University Settlement, as its name indicates, is especially close to the heart of the teachers and undergraduates of the Cincinnati University among whom it was founded.

But its support, both in funds and in active co-workers, must chiefly be drawn from philanthropic men and women not connected with the University, who recognize that the safety, progress in high aims, of the whole city, are inseparably bound up with the moral and sanitary standards of those quarters of the city where tenement houses or similar densely populated dwellings most abound. In this West End in particular there are multitudes of recent immigrants, many of them ignorant of our national speech and of the ordinary comforts, not to say refinements, which are possible in a simple inexpensive home.

To get hold of these people and to help make of them self-respecting, cleanly, public spirited citizens of our community is a part of the labor which is laid upon social settlements alone, among the various institutions which seek the uplift of our fellow men. Churches can only in small part do this work, and many of these people are not reached by any specific religious organization.

The managers of the University Settlement therefore beg their fellow citizens to give them material and moral encouragement.

For the Board of Directors,
George A. Thayer, President.

TREASURER'S REPORT.

October 1, 1908—September 30, 1909.

RECEIPTS:

BALANCE, October 1st, 1908			$ 36 33
Patrons		$1503 37	
Guarantor Members		400 00	
Associate		205 00	
Members		1479 59	
Summer Home Sub		172 97	
S. H. Table Account		427 00	
S. H. Telephone		4 30	
Settlement Work		102 49	
Clinic		4 85	
TOTAL RECEIPTS			$4299 57
Loans			171 30
			$4507 20

EXPENSES:

Salaries		$1500 00	
Print., Postage, Sta., etc.		210 80	
Rent		550 00	
Telephone		74 35	
Gas		41 40	
Coal		52 68	
Water		13 12	
Gas Cons. League Rental		6 75	
Welsbach Co., (New Lights)		36 00	
Furniture		268 22	
Repairs and Equipment		324 31	
Wages		367 80	
Settlement		92 35	
N. R. SUMMER HOME			
Telephone	12 15		
Table and Laundry	431 33		
Wages, Supplies	111 39		
Cler. Bldg. Loan Co.	216 03		
Insurance, 3 years	63 00		
Total		833 95	
Clinic		83 30	
Bills Payable, Oct. 1st, 1908		606 28	
Loans		171 30	
TOTAL EXPENSE			$5232 61
Balance on Hand, Oct. 1st, 1909			117 97
			$5350 58
Deficit			843 38
			$4507 20

"SOME PHASES OF SETTLEMENT LIFE"

FRANK N. MINER, Resident Director

The social life of the settlement is expressed in the club life of the boys and girls and young people and gatherings of a general nature. We have our mission as a center of neighborhood life. Mrs. Browning asked of Charles Kingsley: "What is the secret of your life? Tell me, that I may make mine beautiful, too." And he replied: "I had a friend." As a settlement we endeavor to express in practical, helpful ways, our friendship for those among whom we live.

The economic problem is an interesting one, as we become more familiar with the neighborhood in which the Settlement is situated. The element of waste enters very materially into the problem of this community. We would not be understood as even inferring that the people are receiving a sufficiency as income, but our observation thus far confirms us in thinking that by far the larger part of the misery, misfortune, poverty, is due to lack of knowing how to use a dollar to the best advantage. Mr. Devine says, thrift is the exercise of sound judgment, that it implies the strengthening of character, the sacrifice of smaller pleasures for larger, and that it means more of the good things of life for the whole family. To assist in encouraging such principles of living for our people is not the least of the functions of our Settlement.

This suggests another phase of the economic problem. How far are we justified in assisting our people in a monetary way? Is it justice to the recipient to have done for him what he ought to do for himself? Are we not more ethical and in the long run, doing more good, when we make it possible for the individual to solve his own problems? True, we can not refuse, absolutely, to assist in emergency cases, and emergency cases are continually arising, but we can at least characterize the Settlement as an institution, which strengthens society by making it possible for the weak to help themselves, rather than extending more charity, which relief is scarcely temporary. The joy of life is the living. Have not the less fortunate a right to some of the joy gotten from successfully solving their own problems?

The Settlement has no political or credal affiliations, no propaganda of any sort to hand out to the people, but we are vitally interested in citizenship. Each man thinks according to the vital problems that confront him and the abundance of experience which he can bring to bear upon the problem. Convictions which are true to the man's whole self are to be sought for in our work, rather than servitude to any program. We are interested in the making of citizens, leading men and women to look upon themselves as members one of the other, as members of the state; and to train the young life into the consciousness of responsible citizenship, a citizenship that responds to all the demands made upon it, is a political goal, worthy the effort of any man or institution.

The Settlement is not an educational institution, in the sense that the public schools are educational. Yet in the larger sense of social usefulness it is decidedly educational. Whatever the public schools are doing, we have not the time to do. The church and the schools seem to perform their function well, but the home life of the tenement districts is limited and often extinct. As a supplement to the home, which we believe as essential a factor in the life of the nation as the church or the schools, we strive to make the settlement an educational institution. In this work the settlement ought to be pedagogical in its method, that is true to nature's laws of growth and development.

The question is often asked us, "Are you doing any religious work?" This can be answered by both yes and no. In the sense of promulgating as a Settlement any ecclesiasticism, creed or cult, we answer no. But in the sense that all true service to society must be prompted by the highest motives and done in the right spirit, and with proper attitudes, and that a settlement to do its whole work ought to inspire its neighbors accordingly, we can truthfully say that we do religious work. Much difficulty is avoided by differentiating ecclesiasticism and religion. Accepting the proposition that religion and morals find their true expression only in the vital and necessary activities of every day life, we must profess to make all our activities fundamentally religious.

Dean Hodges, founder of Kingsley House, expresses himself on this subject as follows: "The faith of the settlement is made evident by its works. We may know whether it is really religious or not by looking at it. If to labor to change the city of destruction into the city of God be religious; and if it be religious not to be ministered unto, but to minister, we need not then be greatly troubled about the settlement, for beneath its roof the blind begin to see and the lame to walk, and they who have been palsied take on strength, and the poor hear the good news of the Gospel—that blessed Gospel of the love of God, which is interpreted by the service of men."

Mr. Robert A. Woods sums up this phase of the settlement problem in these words; "That while a University settlement no more than a university itself, should be committed to a theological and ecclesiastical propaganda, yet, both must, if they are to have a mission to the whole of men's higher life, be ready to meet them on the religious side of their nature."

The Settlement as such functions quite properly, we believe, when it assists the people of its neighborhood to the benefits derived from the other philanthropic institutions provided by society. We do not pretend to be a school. a church, a hospital, a juvenile court, an associated charities, a children's home, or a police department. But we believe we have an important mission in bringing our people in touch with the various remedial, preventive, and protective agents of society. We ask all institutions attempting to serve society, to use the Settlement as a center and a means for their work.

OUR VISION OF A SETTLEMENT.

A Settlement which is a home dominated by the pure motives of a neighbor's heart.

A Settlement which is a clearing house for all institutions intended for the help and betterment of the community.

A Settlement which is a social clinic and bureau of investigation into all municipal social conditions.

A Settlement which is a point of personal contact between the extremes of society.

A Settlement which is a positive inspirational force, by the help of which a real community consciousness becomes organized, a community which will be conscious of its own purpose and possibility.

A Settlement which will make possible a community capable and willing to take an intelligent and forceful part in the larger units of social and political life, as the city, the state, the nation.

A Settlement which because of its ideals of and devotion to social service will assist in giving to its community a real religious uplift, and which will in time produce a community which because of its organization, its mutual sympathies, its humanitarian service, and its social and moral attitudes will be fundamentally and essentially religious.

DOING SOME FANCY SEWING

WEEKLY PROGRAM.

MONDAY.

Afternoon—General Clinic.
Evening—Reading Room, Savings Bank.

TUESDAY.

Afternoon—Boys' Clubs, General Clinic, Class in Bulb Growing, Settlement Mothers' Club.
Evening—Boys' Gym Class, Young Ladies' Club, Carving Class, Music Class.

WEDNESDAY.

Afternoon—Boys' Clubs, Fancy Sewing Class, Talks to Mothers, Folk Dancing, Home Library.
Evening—Boys' Gym Class, Evening Sewing Class.

THURSDAY.

Afternoon—Eye, Ear and Nose Clinic, Boys' Clubs, Music Class, Savings Bank, Home Library, Betsey Ross Club (2d Thursday of Month).
Evening—Boys' Clubs, Reading Room, Savings Bank.

FRIDAY.

Afternoon—Music Class, Girls' Clubs, General Clinic.
Evening—Neighborhood Evening.

SATURDAY.

Forenoon—Sewing School.
Evening—The Sons of the Republic.

SUNDAY.

Afternoon—Story Hour.

OFF FOR A DAY IN THE WOODS

A COUNCIL OF MOTHERS

THE CLINIC.

Through the kindness of Mr. Harry Levy we were able to open our clinic. We began with two afternoons per week. Our work necessarily began in a small way, but now we have a well attended clinic each day in the week. Drs. Hollingshead, Keller, Tuechter and Allgaier have been very efficient in organizing this work.

Our clinic is not an end in itself, but is one of our best means, together with our visiting nurse, of coming into personal touch with the home life of our neighborhood. We thus find our way to the people through their self-recognized needs.

By special arrangement Christ Hospital has placed one of its graduate nurses with us as a district nurse. In the development of our clinic, Miss Estelle Trusler has been very valuable as a district nurse. She reports 354 visits made by her during the last three months of our year and 256 calls at the clinic.

Miss Trusler had charge of the *milk station*, which station was under the auspices of the Board of Health. During the three months, June 15th to September 15th, over 4,100 pint bottles of certified milk were distirbuted in the neighborhood.

Under the direction of our nurse, a club of mothers with small babies has been organized, which meets every week, when definite instruction is given as to the care of children.

The *Kindergarten Work*, which was discontinued a year ago, has been resumed this fall as an adjunct to the Sixth District School. Nearly 40 are already enrolled.

NO DAY NURSERY.

While a day nursery must be considered as quite an essential feature of settlement work, especially when conducted along right lines, and under proper medical supervision, yet circumstances are such that we have considered it unwise for the present to maintain a day nursery.

THE GIRLS.

The *Sewing School* is the most largely attended of any class work. From eighty to one hundred and fifty girls, who range in age from six to fifteen years, meet every Saturday forenoon to learn to make their own garments. Miss Viola Pfaff, assisted by a number of University of Cincinnati girls and others interested in the work, has charge. The children are always happy when they feel that they are helping support the school and bring their pennies regularly for this purpose.

A *Fancy Sewing Class* has been most successfully conducted by Miss Gladys Sellew the past three years. Here twenty or more of the smaller girls learn to make many pretty pieces which are cherished, not only by themselves, but by their sisters and mothers.

The *Small Girls' Club,* with an enrollment of thirty, is doing some interesting work in raffia. Much is made of the Indian legends and other story work.

Cooking and Housekeeping has its prominent place in the girls' work. It was late last year when this work was organized and in the short time we have found a great demand for it and plan better facilities for this year's work.

Folk Dancing is one of the attractive features in the Settlement. Special attention is given to German and Scandinavian dances, keeping alive the folk-lore so rapidly being forgotten. Young ladies of the University have the work in charge.

As do all children, those of the Settlement love a flower. To walk along and note the effort during the summer to bring a bit of God's handiwork into the bare alleys and street stirs one with a deep desire to help in the effort. This year the children are taught the growth and care of different bulbs, each child is provided with necessary material, and talks are given from time to time as the growth is observed. When the blossom is evident, the bulb is taken home to be tenderly watched and enjoyed by those at home.

An interesting *Evening Class* for young girls who have just gone into the factories and shops has been opened. The class is now overcrowded and more room must be made. Under the direction of Miss Sellew and Mrs. Miner the girls spend the evening in sewing fancy articles and making choice candies. Once each month a social evening is planned.

The *Optimistic Club* is a club of young ladies of the neighborhood who meet every Tuesday evening. They enjoy listening to a story as they sew, and once a month have a social evening, when a few outside friends are invited in.

A HAPPY BUNCH

THE BOYS.

The gang spirit predominates among the boys. This year we are endeavoring to enlarge the interests of the boys by organizing groups of the small clubs into larger clubs.

Our program provides for social evenings, entertainments, and other interesting features for our larger boys' organization.

On the third floor is our boys' club room, where will be found games, magazines, and amusements for a boy's afternoon or evening.

The Home Library, furnished by the Public Library, affords the best books for the boys to read in their homes.

We are very anxious to develop instruction in the various industrial arts, for we find the boy interested in doing the things in which society is engaged. For some time the Settlement has had a wood carving class which has done some very fine work under the direction of Mrs. Mosher. We also have work in carpentry and bench work. The more boys we can interest in these industrial arts, the more of them will be directed toward our technical schools, and the better workmen they will become.

We are anxious that someone will make it financially possible for us to do a large work in this way for the boys of our neighborhood who have left the schools to go to work.

The entire environment of our boys and girls is artificial. The streets, walks, back-yards, school grounds, all artificial. Not a tree to climb, no loose earth to dig in, no field in which to run, no flowers to pick, no animals as friends and pets. How different from the life we lived in the country! MORAL: Our neighborhood needs a playground.

The enrollment of boys this year is quite encouraging. Over 250 have thus far identified themselves with our work.

THE GYM.

The use of the gymnasium at the Sixth District School makes possible for us better work for all, especially our boys. Shower baths will be installed in connection with the gymnasium in the winter. The efficient leadership of our physical director is making this part of the boys' work very satisfactory.

On Tuesday evening, 7:30-9:30, is the Working Boys' gym class, boys 14 years old and over. On Wednesday evening, 7:00-9:00, is the Boys' Gym Class, boys 12 and 13 years of age. Each class accommodates 50 boys.

The A Corps Perdu Club we still claim as a part of the Settlement. A year ago when the house was closed for the summer, this club of men found quarters on McMicken Avenue. Since, they have remained in their new quarters and are carrying on their work with the *old time spirit* and enthusiasm.

The Sons of the Republic is a club of young men in the later teens, who have begun their work this year with us under the leadership of Mr. James K. Stewart. This club has arranged a most excellent and profitable program of study of civic problems for the year and will meet each Saturday evening.

The teaching of civics we believe to be a very essential part of the work with the older boys and young men. Many of the boys last year showed a very decided interest in civic problems. That our men and boys may become more interested in the affairs of the city and state, our program for the year will include much relating to the study of civics.

The Betsy Ross Club, a woman's patriotic club, fosters their spirit of good citizenship in the work they are doing. This club, while interested in keeping alive the old time patriotic spirit of the national fathers and mothers, is rendering good service to our neighborhood by inspiring that good spirit of the past into their own homes to-day.

THE GYMNASIUM

THE SUMMER HOME.

Early June found us making ready for our summer work, which is largely carried on at the summer home located on the Ohio River near New Richmond. No more beautiful spot could have been chosen for such work. An especially high hill is often an objection, but no more is it reached when one becomes inspired with the beauty and quietude of the place. Here is a model summer cottage overlooking the Ohio river and the Kentuck hills just across, with the Ohio hills sloping on either side.

At this place of rest two hundred and seventy tired mothers, children and working young men and women were guests this past summer. The capacity of the house is but twenty-four, so we were naturally much crowded.

Each Monday evening found practically a new group at the home. Leaving the city in the early afternoon a boat ride of four hours to New Richmond was a delightful beginning of their vacation. Among the numbers were invalids, tired mothers and children, and some who were simply discouraged with life. But all, upon leaving the home, carried with them the happy spirit of a country visit. Many had never been out of the city, and many more had never been on a farm. To see the mothers and children so happy as they had the opportunity to play together made us feel that our effort had not been in vain.

In every way a true home spirit was manifest; it was one large family interested for once in the same thought and finding that after all each had similar home problems. It was our great opportunity, also, to come closely into the lives of our people.

Two-thirds of the guests of this past summer have already asked permission to return next year and many have asked to remain two weeks.

We believe our summer home work has its own peculiar mission to our people. It is not a charity institution, in the sense of giving outright, but we aim to bring within the reach

of our people vacation privileges which their small incomes can afford, but which otherwise would be beyond their means. This principle of assisting people to become independent and self-sustaining is worthy of consideration in our work. To put forth what effort is possible to get the necessaries of life is essential to the development of character. An interesting question is therefore raised as to how far we are justified in doing for others what is within their reach.

To make the work at our summer home more efficient a larger equipment is necessary. Our capacity now is twenty-four, but with the proper amount of bed and table supplies, it could be increased to forty.

"SETTLEMENT;" A NAME AND AN OPPORTUNITY.

ROBERT C. BROOKS, Professor of Political and Social Science, University of Cincinnati.

At first sight the word "settlement" may seem out of place as applied to the great social movement with which it has become associated. Institutions bearing this name are very modern in origin. They thrive best in the environment afforded by great and densely populated centers. How can one speak of "settling" in cities well known to all the world, and particularly in those congested city districts which are suffering primarily because they are already too thickly settled? Associated with newly discovered countries, with unexplored lands over sea, with the lure of adventure and the heavy burdens of colonization the word fairly bristles with familiar connotations. Our peculiar use of it, on the other hand, is secondary, highly specialized, and certainly not obvious in meaning. Used as a name for a social movement the word settlement also seems defective in that it lays too great stress upon what, to the Philistine mind, appears to be nothing more than a bizarre choice of abiding place by certain persons who ought to know better.

In a wider sense, however, there is a significance in the term which makes it entirely appropriate. Our Western frontier is disappearing before the growth and movement of population, but there are unvisited, even undreamed of, social frontiers at our very doors. Every day, year in and year out, elevated, surface, or underground roads whirl us through quarters of our own city of whose people and customs we know nothing. We go through life very much like the rich parvenu who travels first-class in Europe, and who, in consequence, is elevated above and thoroughly insulated from all contact with the language and the distinctive customs of the countries which he visits. It is a commonplace observation that upper classes are pretty much alike the world over, and it is for this reason that first-class travelers find their journeys insipid and tiresome. Only by *settling* in a foreign country, that is by actually living and associating freely with its people of all ranks, does one begin to know it. One can see the "*Sehenswurdigkeiten*," can "do" this museum or that gallery on a first-class basis, but one can not become acquainted with the German, or French, or Italian people in any such undemocratic fashion.

Now it may seem a thoroughly unwarranted bit of impudence to tell Americans that they can not know the American people unless they *settle* among them. Yet we do not hesitate to acknowledge the truth of such a statement in unguarded moments. It is a very common remark that city dwellers never find time to visit their own city. Our country cousins, while spending a week with us, perform prodigies of sight-seeing that throw all our own performances of a similar character into the shade. If we are so remiss in pilgrimages to civic shrines what shall be said of our neglect to voyage beyond the narrow frontiers of clique, or neighborhood, or social circle?

What a world of interest escapes us because of our incurious, unsocial, even churlish attitude! Certain critics of American life, reflecting current "well-bred" notions, comment upon its lack of variety, upon the dull uniformity which, they allege, prevails from New York to San Francisco, from Chicago to New Orleans. Travel main thoroughfares only and this view may seem reasonable enough. Turn aside from the beaten path and it will not last out a week. A few days residence in the hotel district of each of twenty cities will leave twenty indistinguishable impressions. Reside for a year or two at a time in any half dozen of them and peculiarities of character of the most striking and diverse sort will stand out ineffaceably. No man who has lived with his eyes open in one of our greater American cities has any reason to envy the blind race of globe trotters who miss everything significant while on their travels.

There are many ways of *settling* in America. In business and church relations one is often brought into contact with representatives drawn from various walks of life. Formalism and the tendency to social stratification invade these and other spheres so frequently, however, that the valuable opportunities which they afford to understand and be helpful are often lost. Above every other institution university settlements offer the most useful mediums for establishing connections of interest between widely differing sorts of people. Free from all taint of vulgar intrusion, the frank basis of a common neighborliness which they supply makes them invaluable as social observatories.

It has recently been my very pleasant privilege to acknowledge publicly the great indebtedness I feel to the political writings of two American women—Jane Addams and Mary Kingsbury Simkhovitch. They are recognized everywhere as women of the most distinguished ability, but great as is their ability, it seems certain to me that they could never have attained the masterly knowledge and sympathetic insight of city politics which they possess had they not studied the subject from the point of view of settlement workers.

I have purposely refrained from referring to the benefit of settlement work upon the settlement neighborhood, principally because this benefit is shared in alike by the good settlement worker and the good neighbor of the settlement. The man or woman who chooses a certain residence place solely with a view to raising the standards of his neighbors is in most cases a snob, and this is just as true of those who take up residence in university settlement with such intent. And I have sought to emphasize the wider knowledge, the clearer understanding which settlement activity brings because it is so rich in interest, so easy of attainment. Especially to university students I would say that without social experience they will never make great progress in social science. If little stress has been laid upon the sympathetic desire to serve it is because that desire is sure to come with wider social knowledge whether or not it be present in the first instance.

FOUNDER:

Prof. P. V. N. Myers.

Subscriptions—Contributions, Oct. '08-Sept. '09.

PATRONS:

Fleischman, Mrs. Chas.	$150 00
Levy, Harry M.	450 00
Moerlein Brewing Co. (2 yr. sub)	100 00
Myers, Prof. P. V. N. (3 yrs. sub.)	100 00
Procter, Wm. Cooper	250 00
Schmidlapp, J. G.	100 00
Taft, Chas. P., (2 yr. sub)	100 00
Tri-Delta Sorority	248 37

GUARANTOR MEMBERS:

Ault & Wiborg	$ 50 00
Cooder, Mrs. William C.	50 00
Emery's Sons, Thomas	50 00
Fleischman, Julius	50 00
Nielen, A.	50 00
Pounsford, Harry G.	50 00
Stearns, Wm. S. (3 yrs. sub.)	50 00
Thomas, Georgine H.,	50 00

ASSOCIATE MEMBERS:

Dana, S. F.	$ 25 00
Gamble, James N.	25 00
Ingalls, M. E.	25 00
Lackman Brewing Co.	25 00
Melish, Wm. B.	25 00
Pogue, Mary I.,	25 00
Union Savings Bank & Trust Co., (sub)	25 00
V. C. P. Sorority	30 00

MEMBERS:

Alms, Wm. H. (3 yrs. sub)	
Alms & Doeuke Co., The (mdse.)	$ 10 00
Anderson, Mrs. Louise N.	10 00
Anderson, Robt., (3 yrs. sub)	5 00
Armstrong, Miss M. Louise	2 00
Ault, L. B. (3 yrs. sub)	5 00
Ballman, Mrs. Frank H., (3 yrs. sub)	5 00
Benedict, Mrs. Chas C.	1 00
Bentley, Henry (3 yrs. sub)	5 00
Betsy Ross Club	5 00
Boedeker, H.	10 00
Brewster, J. W.	5 00
Brooks, Prof. Robt. C., (3 yrs sub)	5 00
Campbell, Miss Edith and Dr. E	5 00
Clauss, Wm., (3 yrs, sub)	5 00
College Club, The	16 00
Collins, Miss Catherine	2 00
Crouse, Miss Anna M.	2 00
Crouse, Mrs. M. V.	2 00
Cosgrove, Otway J.	5 00
Czarnomska, M. E. J.	15 00

Dabney, Chas. Wm. (2 yrs. sub.)	20 00
Davis, Natt. Henchman	5 00
Droude, Miss Louise	5 00
Dow, M. C., (3 yrs. sub)	5 00
Dymond, Richard	10 00
Fish, Miss Frances A	2 00
Flinchbaugh, Rev. F. L., (3 yrs. sub)	5 00
Forchheimer, Edith P.	5 00
Freiberg, Joseph, (3 yrs. sub)	5 00
Freiberg, Maurice (3 yrs. sub)	5 00
French, H. G., (3 yrs. sub)	5 00
French, H. L., (3 yrs. sub)	5 00
Geier, Fred A., (3 yrs. sub.)	5 00
Goldsmith, A. W., (3 yrs. sub.)	5 00
Green, Louise Coy	5 00
Griess, Justin	2 00
Hall, Prof. John W., (3 yrs. sub)	5 00
Harris, Geo. W., (3 yrs, sub.)	5 00
Hart, Mary T.	10 00
Hartman, Rev. L. O., (3 yrs. sub.)	1 00
Hasemeier, J. D.	5 00
Hattersley, G. A.	10 00
Hermes, Lottie	2 00
Hickenlooper, Maria L	5 00
Hollingshead, Dr. Frances M.	5 00
Hollister, Alice K.	5 00
Hollister, Howard C (3 yrs, sub.)	5 00
Holterhoff, Ralph (3 yrs. sub.)	10 00
Holterhoff, Ralph	10 00
Hooker, J. J., (3 yrs. sub.)	5 00
Hyman, W. R., (3 yrs. sub.)	5 00
Hill, Alexander, Jr., (3 yrs. sub.)	
Jackson, Ellen B.	5 00
King, Alice Cynthia, ($5, 3 yrs. sub.)	10 00
Kinmont, Miss Jane	1 00
Kebler, Elliot A., ($5, 3 yrs. sub.)	15 00
Koehler, Mrs. Geo.	2 00
Littleford, Wm., (3 yrs. sub.)	5 00
Littleford Bros., (3 yrs. sub.)	5 00
Lodge & Shipley Mch. Tool Co., (3 yrs. sub.)	10 00
Lowman, Leo J., (3 yrs. sub.)	5 00
Lowman, Leo J.	10 00
Lunken, E. H., (3 yrs. sub.)	5 00
Lunkenheimer Co.	10 00
Lunkenheimer, Louise H.	10 00
Luncheon	776 49
McArdle, James, (3 yrs. sub.)	5 00
Mathews, Paul (3 yrs. sub.)	5 00
Meacham, D. B.	10 00
Melish, Mrs. Thos. G.	10 00
Meis, Nathan	5 00
Meis, Henry, (3 yrs. sub.)	5 00
Meyer, S. R., 3 yrs. sub.)	5 00
Moch, M. E., (3 yrs. sub.)	5 00
Morton & Sons, (3 yrs. sub.)	5 00

Parry, Emma Louise	2 00
Pearson, W. B., (3 yrs. sub.)	5 00
Pfaff, Mrs. Frank L.	5 00
Pfaff, Miss Viola	5 00
Potter Shoe Co.	10 00
Procter, Wm. Cooper, (3 yrs. sub.)	5 00
Ratterman, Katherine	2 00
Rhodes, J. H., (3 yrs. sub.)	5 00
Rowe, Casper	5 00
Sage, Helen, (3 yrs. sub.)	
Sage, John D.	5 00
Sayers, W. A., (3 yrs, sub.)	5 00
Schwartz, M.	20 00
Schlemmer Co., The Oliver	2 00
Senior, Max., (3 yrs. sub.)	5 00
Sherman, Miss Sara	10 00
Simpson, Mrs. Frank H., (3 yrs. sub.)	5 00
Smith, Starbuck, (by)	3 50
Stearns, E. R., (3 yrs. sub.)	5 00
Stegner, Mrs. Clifford	1 00
Sternberger, E. L.	5 00
Stewart, Emma F., (3 yrs. sub.)	5 00
Strader, Benj. W., (3 yrs. sub.)	5 00
Strong, E. W., (3 yrs. sub.)	5 00
Tawney, Prof. Guy A.	1 00
Tawney, Prof Guy A. (3 yrs sub.)	5 00
U. S. Playing Card Co.	10 00
Warriner, C. L., ($5 sub. 3 yrs.)	15 00
Washington, W. H.	5 00
Weil, Miss (S. S.)	9 60
Werk, Miss Eugenie B.	2 00
Wiborg, F. B.	10 00
Wiborg, Miss Mary Hoyt	10 00
Wilshire, Joseph, (3 yrs. sub.)	5 00
Winkler, Eli, (3 yrs. sub.)	5 00
Winkler, Isaac, (3 yrs. sub.)	5 00
Winkler, S M., (3 yrs. sub.)	5 00
Woods, Harry F., (3 yrs. sub.)	5 00
Worthington, Edw.	10 00
Wulsin, Lucien	10 00
Zuest, Adolph	20 00

SUMMER HOME SUBSCRIPTIONS.

Christie M. E. Church	$ 2 50
Civic League, Jr.	20 00
Cooder, Mrs. Wm. C.	10 22
Cowing, Mrs. R. A.	10 00
Dabney, Mrs. Chas. Wm.	10 00
Dellabach, Miss, (S. S. Class)	5 25
Dunham, Dr. and Mrs. Kennan	10 00
Emery, Mary M.	10 00
Fleischman, Lily A.	10 00

Hanna, Mary	10 00
Hickenlooper, Maria L.	5 00
Muhlhauser, Christine G.	10 00
Pogue, Mary I.	10 00
Rawson, Mrs. Joseph	10 00
Sellew, Mrs. Ralph	10 00
Sellew, Miss Gladys	10 00
Stearns, Geo. H.	10 00
Thomas, Mrs. Georgine H.	10 00

ACKNOWLEDGMENTS.

It would indeed be unappreciative to complete our annual report without mention of some of the many favors received by the Settlement during the year.

In the fall, a year ago, the Tri Delta Sorority did us a great service in making our Settlement more home-like, by donating to us $250 worth of beautiful furniture. The home-like appearance thus afforded has had no small influence upon our work during the year.

At Christmas time, the V. C. P. Sorority delighted our children with a beautiful Christmas tree and a delightful party. The Sorority girls seemed to enjoy the giving of this happiness fully as much as the children in receiving.

The "Junior Sewing Circle," placed in our care for distribution, a number of children's garments which were much appreciated by some of the needy ones.

During the summer of 1908, while our house was closed, the Jewish Settlement very kindly gave room for some of our class work to be continued.

The members of the Alumni, the students of the University, the ladies of the faculty, the college club, and others who assisted have our sincere thanks for the successful prosecution of the University Settlement luncheon. We believe this function creates a lively interest in our work, and at the same time it is a much needed and appreciated financial asset.

The Junior Civic League of Lane Seminary made possible a vacation for several of our children, who were unable to pay the whole expense for a week at the summer home. Christie Methodist Church and Miss Deckebach's Sunday School class gave similar assistance.

"The Settlement has come to stand by itself in the community as an institution that has its own reasons for existence, its own types of activity, and its own criteria by which to judge them. It is an outgrowth of the home, the church, and the university. The university and the church were responsible for its inception, and their creative ideas expressed themselves in a "settlement" which was to be the home of those who were engaged in its life."

"It is this foundation upon the home that has made it possible for the Settlement to spring up seemingly sporadically, to be peopled by men and women of widely differing lines and temperaments. Each settlement has stood upon its own feet. It has justified itself and its own existence by the reality of its identification with the group about itself."

"It is the privilege of the social settlement to be a part of its own immediate community, to approach its conditions with no preconceptions, to be the exponents of no dogma or fixed rules of conduct but to find out what the problems of this community are and as a part of it to help toward their solution."

"The other function of the settlement, or of that movement of which the settlement is the most concrete illustration, is to enable us to form new moral judgments as to what is right and wrong, where we have been in such painful doubt. It is here that the settlement is enabled to accomplish what the pulpit cannot accomplish."

GEORGE HERBERT MEAD,
Professor of Philosophy,
University of Chicago.

University of Cincinnati Record

THE NEW YORK
PUBLIC LIBRARY

ASTOR, LENOX AND
TILDEN FOUNDATIONS

Series 1, Vol. VI, No. 4. JANUARY, 1910.

ANNOUNCEMENT OF

THE GRADUATE SCHOOL

1910—1911

PUBLISHED BY THE UNIVERSITY OF CINCINNATI,
AT THE UNIVERSITY PRESS,
BURNET WOODS, CINCINNATI, OHIO.

Series I. Vol. VI. No. 4
JANUARY, 1910

University of Cincinnati Record

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THE UNIVERSITY OF CINCINNATI

COMPRISES THE FOLLOWING DEPARTMENTS:

I.
THE GRADUATE SCHOOL.

II.
THE McMICKEN COLLEGE OF LIBERAL ARTS.

III.
THE COLLEGE FOR TEACHERS.

IV.
THE COLLEGE OF ENGINEERING.
(Mechanical, Electrical, Civil, and Chemical Engineering.)

V.
THE COLLEGE OF LAW.
(The Cincinnati Law School.)

VI.
THE OHIO-MIAMI MEDICAL COLLEGE.
(The Ohio and the Miami Medical Colleges united.)

VII.
THE DEPARTMENT OF CLINICAL MEDICINE.
(The Clinical and Pathological School of the Cincinnati Hospital, Affiliated.)

For the special announcements of the various departments and further information, address:

THE SECRETARY OF THE UNIVERSITY,
CINCINNATI, OHIO.

OFFICERS OF ADMINISTRATION OF THE GRADUATE SCHOOL.

President of the University:
CHARLES WILLIAM DABNEY, Ph. D., LL. D.
Room No. 10, McMicken Hall.

Dean of the Graduate School:
JOSEPH E. HARRY, Ph. D.
Room No. 4, McMicken Hall.

Director of the Observatory:
JERMAIN G. PORTER, Ph. D.
The Observatory, Mt. Lookout.

Secretary of the University:
DANIEL LAURENCE, B. S.
Room No. 6, McMicken Hall.

Librarian of the University:
CHARLES ALBERT READ, A. B.
Van Wormer Library Building.

Registrar:
LELIA AMANDA GARVIN, B. L.
Room No. 7, McMicken Hall.

THE GRADUATE SCHOOL.

CALENDAR 1910-1911.

1910.

September 26, Monday:
First semester begins.

September 26, Monday-October 1, Saturday:
Registration days.

November 24, Thursday-November 26, Saturday:
Thanksgiving recess.

December 22, Thursday:
Christmas vacation begins.

1911.

January 2, Monday:
Work resumed.

January 23, Monday-January 28, Saturday:
First semester examinations.

January 28, Saturday:
First semester ends.

January 30, Monday-February 1, Wednesday:
Registration days for second semester.

January 31, Tuesday:
Second semester begins.

GENERAL INFORMATION.

FOUNDATION.

On his death, in 1858, Charles McMicken gave to the city of Cincinnati by will almost the whole of his estate, valued at about $1,000,000, for the purpose of establishing and maintaining "two colleges for the education of white boys and girls."

He had "long cherished the desire to found an institution where white boys and girls might be taught not only a knowledge of their duties to their Creator and their fellow men, but also receive the benefit of a sound, thorough and practical English education, and such as might fit them for the active duties of life, as well as instruction in the higher branches of knowledge, except denominational theology, to the extent that the same are now or may hereafter be taught in any of the secular colleges or universities of the highest grade in the country."

Nearly half of the property devised by Mr. McMicken was situated in the state of Louisiana. This was entirely lost, in 1860, by a decision of the Supreme Court of that state, annulling that part of the devise. The court refused to recognize the validity of bequests of real estate to institutions controlled by non-resident trustees upon perpetual trusts. The remainder of the property, lying in Cincinnati and its vicinity, did not yield a sufficient income to warrant the establishment of the proposed colleges. For ten years, therefore, the revenue derived from the estate was applied to its improvement.

In 1869 the trustees provided for a School of Design, which they maintained, with aid from Joseph Longworth, until 1884, when they transferred it to the Cincinnati Museum Association. Meanwhile an attempt was made to unite the various educational trusts in Cincinnati. To this end, in 1870, the General Assembly of Ohio passed an act "to aid and promote education," under which, almost a year later, the University of Cincinnati was established. Bonds were soon issued by the city to provide funds for the erection of a suitable building, which was ready for use in the fall of 1875. But students were received in 1873, and instruction was given temporarily by the teachers of Woodward High School. In 1874 the Academic Department, now known as the McMicken College of Liberal Arts, was organized by the appointment of three professors and two instructors, who met classes during that year in a school building on Franklin Street.

The effort to unite other trust funds with those given by Charles McMicken having failed, the income remained long inadequate to the needs of such an institution as he had intended to found. At length the city undertook to support the University

in part by public taxation, the tax for this purpose being limited at first to three-tenths of one mill. In the course of time additional funds for the maintenance of the institution were provided by individual citizens, the most important being the bequest of property, valued at $130,000, by Matthew Thoms in 1890, the gift of $100,000 by David Sinton in 1899, and the recent bequest of Mary P. and Eliza O. Ropes, of Salem, Massachusetts, amounting to $100,000, for the endowment of a chair of Comparative Literature, as a memorial to their father, Nathaniel Ropes, for many years a citizen of Cincinnati.

New departments were also added. In 1872 the Cincinnati Astronomical Society (founded in 1842) transferred its property on Mt. Adams to the city, which agreed, as a condition of the gift, to sustain, in connection with the University, on a new site provided by John Kilgour, an Observatory,* to be built with funds given by him. In 1896 the Medical College of Ohio (founded in 1819) became the College of Medicine of the University, though still retaining its original title conjointly with its new one. In 1908 an invitation was extended to the Miami Medical College to become a department of the University. In accordance with this invitation the Miami Medical College and the Medical College of Ohio (the College of Medicine of the University) have recently been united into a single medical department, known as "The Ohio-Miami Medical College of the University of Cincinnati." In 1896 a Law Department was established, and six professors of law were appointed, who gave instruction at first in rooms on Fourth Street. But, in 1897, by a contract with the Law School of the Cincinnati College (founded in 1833), a union was effected. The College of Law of the University was to be known as the Cincinnati Law School, and the degree of Bachelor of Laws was to be conferred by the concurrent action of the Board of Directors of the University and the Trustees of the Cincinnati College.

Out of a professorship of Civil Engineering in the College of Liberal Arts has developed the College of Engineering. It was organized under that name in 1900, and became a distinct department in 1904.

Since its organization, in 1887, the Clinical and Pathological School of the Cincinnati Hospital has been affiliated with the University, being designated as the Medical Department, until 1896, and afterwards as the Department of Clinical Medicine.

The College for Teachers was organized in 1905, in cooperation with the Board of Education of the City of Cincinnati. In 1906 the Graduate School was separated from the McMicken College of Liberal Arts and a distinct organization with a dean at its head

*For this purpose the city levies annually a special tax of one-twentieth of one mill.

effected. In the same year the General Assembly of Ohio authorized the levying of an increased municipal tax for the University —five-tenths of a mill, instead of three-tenths as before.

BUILDINGS AND SITE.

From 1875 to 1895 the Academic Department occupied the building erected on the grounds of the McMicken homestead, as required by the will of the founder. This site proving altogether unsatisfactory, application was made to the courts for permission to remove to a more suitable location in Burnet Woods Park. The desired permission having been granted by the court of last resort in March, 1893, steps were immediately taken for the construction of a main building, called McMicken Hall, which was completed in two years. This building stands on high ground at the southern end of the park, forty-three acres having been set apart as a site for the University. During 1895-96 the north wing, known as Hanna Hall, was built for the departments of Chemistry and Engineering, with funds amounting to about $70,000, provided by Henry Hanna. The south wing, called Cunningham Hall, was built in 1898-99 by Briggs S. Cunningham, at a cost of $60,000. This wing is occupied by the departments of Physics and Biology. The Van Wormer Library, costing about $60,000, the gift of Asa Van Wormer, was built during 1898-1900. The Technical School building erected in 1901, has been completely remodeled to meet the needs of the College of Engineering. The Observatory, built in 1873 with $10,000 given by John Kilgour, stands on Mt. Lookout, at a distance of several miles from the other University buildings. A smaller structure, the O. M. Mitchel Building, was added in 1904 to house the old telescope. Since 1896 the building on the McMicken homestead site has been used by the College of Medicine. A Dispensary, erected in that year, is situated on the lower part of the grounds. The College of Law, on Ninth Street, occupies a new building, which was completed in 1902 at a cost of $65,000.

BENEFACTORS OF THE UNIVERSITY.

Besides those whose names have already been mentioned, the following persons have contributed to the endowment or to the equipment of the University: William A. Procter, Rev. Samuel J. Browne, William J. Odell, Julius Dexter, Frank J. Jones, Judge Moses F. Wilson, Eugene F. Bliss, Dr. James T. Whittaker, Mrs. William E. Merrill, Theodore A. Bruehl, Andrew Hickenlooper, Christian Moerlein, Laura Seasongood, Lewis Seasongood, S. Lilienthal, Mrs. Nannie Fechheimer, A. G. Wetherby, Charles F. Windisch, C. T. Webber, Rev. P. Robertson, the Lane & Bodley Company, James E. Mooney, John Kilgour, Charles Kilgour, C. H. Krippendorf, Julius Fleischmann, Lucien Wulsin, Samuel Pogue,

Professor Edward Miles Brown, Dr. Nathaniel Pendleton Dandridge, Mrs. Howard Breen, the alumni of the University, and others.

ENDOWMENT FUND ASSOCIATION.

The Endowment Fund Association of the University of Cincinnati was incorporated on April 21, 1905, by a number of prominent citizens of the municipality. The purpose of the corporation, as stated in its Code of Regulations, is "to secure property, including money, or the income from the same, for the use of the University of Cincinnati, and for that purpose to solicit, collect, accept, hold, manage, invest, or pay over such property, money, or income, whether such property, money, or income arises by way of gift, devise, or purchase, for the benefit of said University." Its affairs are managed by a Board of Trustees consisting of nine members. The officers of the Endowment Fund Association are:

Rufus B. Smith, President.
Jacob G. Schmidlapp, Vice-President.
Charles F. Windisch, Treasurer.
Howard C. Hollister, Secretary.

BENEFACTIONS.

For the guidance of those who may wish, during life or by bequest, to make benefactions to the University, the following information is given:

Form of Bequest to University of Cincinnati:—

I bequeath and devise to the City of Cincinnati as Trustee for the University of Cincinnati, to hold in trust forever for said University, the following property:.....

Form of Bequest to the Endowment Fund Association:—

I bequeath and devise to the Endowment Fund Association of the University of Cincinnati, for the use of the University of Cincinnati, the following property:.....

The sum of one hundred and fifty thousand dollars would erect a section of a Natural History Museum.

The sum of one hundred thousand dollars is the amount necessary to found a full professorship in any one of the departments. The donor has the privilege of naming the professorship.

Fifty thousand dollars would be required for a dormitory, and the contributor of such a sum would be privileged to name the building. There is nothing which the University needs more than a dormitory system.

Twenty thousand dollars endows an instructorship in a department. The donor has the right to name it.

Ten thousand dollars is the principal required to establish a fellowship in any one of the departments; the income being paid

to the fellow, who devotes his time to original research combined with a little teaching.

Three thousand dollars endows a free scholarship, the income from this sum remitting all fees and giving the donor the right during life to nominate to the scholarship, subject to the rules of the University.

The President of the University would be glad to give full information upon any questions relating to foundations to any person or persons who may desire more detailed knowledge.

THE UNIVERSITY LIBRARY.

The Van Wormer Library Building is of stone, fire-proof throughout, and is built in accordance with the most approved modern plans of library construction. The rooms have been furnished by the University with heavy tables and desks of quartered oak.

The University Library, in this building, contains about 55,000 volumes and 8,800 pamphlets. In the Reference Room about 2,000 volumes are arranged on open shelves, to which the students have free access. The Periodical Room contains the current numbers of 300 periodicals. The Library is provided with a card catalogue of its own books, and also with card catalogues of the books in the Public Library of Cincinnati and in the Library of the Historical and Philosophical Society of Ohio. It is open every week day from 8 a. m. to 5 p. m.

The Library contains some valuable special collections:

The Robert Clarke Library, comprising 6,761 volumes, was given by William A. Procter. This collection is especially rich in Americana, and contains some rare first editions.

The Enoch T. Carson Shakespeare Library, 1,420 volumes, was also given by William A. Procter.

The Bruehl Library, of about 2,000 volumes, contains many rare and valuable works on the history, archæology, and ethnology of Mexico and Central America. This collection was made by Dr. Gustav Bruehl, and presented to the Library by Mr. Theodore A. Bruehl.

The Wilson Library, consisting mainly of works of literature and criticism, in English, French, and Italian, 810 volumes, was given by Judge Moses F. Wilson.

The Merrill Library of engineering works, 876 volumes, 478 pamphlets, and 185 maps, charts and photo-lithographs, was given by Mrs. William E. Merrill.

The Whittaker Medical Library, the bequest of Dr. James T. Whittaker to the Medical College of Ohio, comprises 1,547 volumes and 538 pamphlets.

The Thoms Library, miscellaneous works, was part of the bequest of the late Matthew Thoms.

The Laura Seasongood Alcove contains books purchased annually from the proceeds of an endowment provided in 1894 by the will of the late Laura Seasongood.

The Brown Philological Library, containing the English philological library of the late Professor Edward Miles Brown and presented to the University by Mrs. Edward Miles Brown, consists of 318 bound volumes, 51 unbound volumes, and 83 pamphlets.

The Charlotte Hillebrand Memorial Library consists of French and German books, purchased from the proceeds of an endowment recently established in memory of the late Charlotte Hillebrand.

The Library of the American Association for the Advancement of Science has been placed under the charge of the University of Cincinnati, by the terms of an agreement with the Association, entered into on September 14, 1895. This collection consists at present of 5,600 volumes, for the most part periodical publications of foreign scientific societies.

The Historical and Philosophical Society of Ohio has deposited its valuable collections of books, pamphlets, and other articles in the Van Wormer Library of the University. This Library comprises over 23,000 volumes and 68,000 pamphlets, pertaining chiefly to the history of the Ohio Valley, and contains valuable collections of original letters and other manuscripts.

The total number of books in the Van Wormer Library Building is about 84,000 volumes and 77,000 pamphlets.

To these collections must be added the libraries of departments of the University, situated in other parts of the city. These are:

The Library of the Observatory	3,500 volumes
The Library of the College of Law	11,000 volumes
The Library of the College of Medicine	3,000 volumes
The Library of the Cincinnati Hospital	18,309 volumes
Total	35,809 volumes

The libraries of the University then, taken altogether, but excluding those of the Historical and Philosophical Society of Ohio and the American Association for the Advancement of Science, contain 90,809 volumes and 8,800 pamphlets.

The Public Library, of 438,767 volumes; the Mercantile Library, containing about 76,000 books; and the Lloyd Library and Museum, consisting chiefly of scientific works, as well as those of the Lane Theological Seminary, the Hebrew Union College, the Art Museum, and the College of Music, are open to University students.

UNIVERSITY PUBLICATIONS.

The University publishes the following periodicals at the University Press:

The University of Cincinnati Record,

Published monthly, from October to June inclusive. Its numbers include

The Annual Catalogue.
The Announcement of the Graduate School.
The Announcement of the McMicken College of Liberal Arts.
The Announcement of the College for Teachers.
The Announcement of the College of Engineering.
The Announcement of the College of Law.
The Announcement of the College of Medicine.
The President's Annual Report,

and other pamphlets of special information. Any number of the *Record* will be sent free of charge upon application to the Secretary of the University.

The University Studies,

Issued bi-monthly, is a scholarly publication, containing the results of research by members of the faculty or by other persons connected with the University of Cincinnati.

A price list of the literary and scientific publications of the University may be had by addressing the Office of the Press.

LABORATORIES.

The laboratory facilities offered in Botany, Zoology, Physiology, Histology, Physics, Chemistry, Psychology, Geology, and in the Engineering departments are equaled by few institutions in the West. The industries of the city afford abundant opportunity for the observation of the most recent scientific processes applied to manufacturing.

MUSEUMS.

The Museum of Natural History is located on the fourth floor of McMicken Hall, and consists of a number of geological and biological collections. Among others are specimens donated from the Zoological Garden from time to time; the Balke natural history collections, consisting chiefly of mammals, birds, and insects; the Huntington collection of shells; the Fillmore and Schneider collection of Philippine relics; the Fechheimer collection of igneous rocks; the Wetherby collection of rocks and

minerals; and lastly, a series of specimens illustrating the chemical industries. The department of Geology and Geography has also on exhibition a part of its working collections of maps, models, minerals, rocks and fossils. Among recent valuable additions are the Carl Holmes collection of Greenland birds, permanently loaned by Dr. and Mrs. C. R. Holmes; donations by Mr. E. Meyer and Dr. Arch. I. Carson; and several group mounts of large animals by the Custodian of the Museum. A skillful collector and taxidermist is at present engaged in completing collections of local material.

The Greek Room contains reproductions of the most noted works of Greek art. There were added to this collection recently a cast of Michel Angelo's "Twilight," the Praxitelean "Diana of Gabii," "Ajax," "Hector and Andromache," "Venus de Medici," "The Boy and Goose," "Psyche of Capua," "Diana of Versailles," and "Hero." Two additional statues (Minerva Giustiniani and the Lateran Sophocles) have been installed in the main corridor of McMicken Hall. These, together with the large carbon pictures of the Parthenon, Erechtheum, Acropolis, Corinth, and Paestum in the same hall, form a valuable adjunct to the collection of casts in the Art room.

Students of the classics and of industrial art derive much profit from the collections of the Cincinnati Art Museum; the Museum of the Society of Natural History and the Zoological Garden are utilized extensively for practical instruction in biological science; the Indian remains and mounds near the city are important for the study of archæology and history. Courses in schools of music and fine art, for which Cincinnati is noted, are frequently combined with University work.

THE ALLIANCE FRANÇAISE.

The Alliance Française, a national association, officially recognized by a decree of the President of the French Republic, October 23, 1886, aims to promote the study of the French language and literature in foreign lands.

The Cincinnati branch of the Alliance Française, in cooperation with the University of Cincinnati, has arranged for a number of lectures to be given during the year by some of the most eminent French writers of the day. To these lectures students at the University of Cincinnati are admitted by season tickets free of charge.

In 1904 the Alliance Française of Cincinnati established a Scholarship of $300 in the University, to be awarded to the student showing the greatest proficiency in French. The successful candidate is required to attend the summer course of instruction given by the Alliance Française in Paris.

THE UNIVERSITY SETTLEMENT.

The Settlement conducted by the University of Cincinnati was organized in the year 1899. In May of that year a Settlement Association was formed, and in September a house, situated on Liberty and Plum Streets, in one of the most densely populated districts in Cincinnati, was opened, and at present is in full operation.

This house has become the social and educational headquarters of the neighborhood, and is frequented by the people from the surrounding tenement houses. A competent head-resident, ably seconded by his wife, directs the work. Various clubs are led by volunteer workers from the University and city and enjoy the social and educational privileges of the Settlement. Some of the features of the Settlement are a gymnasium, a circulating library, a reading room, a savings bank, and a lecture and entertainment course. It has, besides, a large sewing-school and several cooking-classes. A clinic is conducted each afternoon and a district nurse gives her whole time to the neighborhood work. Thus it furnishes an excellent experiment station for those who wish to do work in practical sociology. Students of the three upper classes doing regular work at the Settlement are given credit by the department of Political and Social Science.

This work is under the supervision of a Board of Directors, upon which serve representatives from the Faculty of the McMicken College of Liberal Arts, from the Alumnal Association, from the students of the University, and from business men of the city.

THE GRADUATE CLUB.

The members of the Graduate School have organized a Graduate Club, the object of which is to promote social intercourse, the encouragement of wider learning and research, the creation of an intellectual atmosphere, and the advancement of all the interests of the University of Cincinnati.

EXPENSES—BOARDING PLACES.

For the session of nine months the expenses of a student in the Graduate School will hardly be less than $325.00, nor need they be more, at a liberal estimate, than $450.00. A directory of suitable boarding places in the vicinity of the University Campus may be found in the Secretary's office. The rates for board and lodging vary from $4.50 to $7.00 a week. A schedule of University fees, which vary in proportion to the amount of work elected, may be found on page 22 of this announcement.

The Secretary of the University will make every effort to secure employment in the city for students who desire to support themselves wholly or in part while attending the University.

GRADUATE SCHOOL.

FACULTY.

CHARLES WILLIAM DABNEY, Ph. D., LL. D., President of the University.

JERMAIN GILDERSLEEVE PORTER, Ph. D., Director of the Observatory and Professor of Astronomy.

FREDERICK CHARLES HICKS, Ph. D., Sinton Professor of Economics and Civics.

HARRIS HANCOCK, Ph. D., Dr. Sc., Professor of Mathematics.

*JOHN MILLER BURNAM, Ph. D., Professor of Latin.

MAX POLL, Ph. D., Professor of the Germanic Languages.

JOSEPH EDWARD HARRY, Ph. D., Professor of Greek and Dean of the Graduate School.

MERRICK WHITCOMB, Ph. D., Professor of History.

LOUIS TRENCHARD MORE, Ph. D., Professor of Physics.

MICHAEL FREDERIC GUYER, Ph. D., Professor of Zoology.

BURTIS BURR BREESE, Ph. D., Professor of Psychology.

WILLIAM PAXTON BURRIS, A. M., Professor of the History and Principles of Education.

JOHN WILLIAM HALL, A. M., Professor of Elementary Education.

STEPHEN ELMER SLOCUM, Ph. D., Professor of Applied Mathematics.

NEVIN MELANCTHON FENNEMAN, Ph. D., Professor of Geology and Geography.

MARCO F. LIBERMA, A. B., Professor of Romance Languages.

LAUDER WILLIAM JONES, Ph. D., Professor of Chemistry.

ROBERT CLARKSON BROOKS, Ph. D., Professor of Political Science.

GUY ALLAN TAWNEY, Ph. D., Professor of Philosophy.

————, Professor of English.

*Absent on leave in Europe, 1910-11.

OTHER OFFICERS.

GEORGE MOREY MILLER, A. M., Associate Professor of English.

HARRIS MILLER BENEDICT, A. M., Associate Professor of Biology.

JAMES EDMUND IVES, Ph. D., Associate Professor of Physics.

CLAUDE M. LOTSPEICH, Ph. D., Assistant Professor of German.

EMILIE WATTS McVEA, A. M., Assistant Professor of English.

GEORGE HENRY ALLEN, Ph. D., Assistant Professor of Latin.

ISAAC JOSLIN COX, Ph. D., Assistant Professor of History.

HARRY SHIPLEY FRY, Ph. D., Assistant Professor of Chemistry.

GEORGE WALLACE UMPHREY, Ph. D., Assistant Professor of Romance Languages.

FRANK WASHINGTON BALLOU, A. M., Assistant Professor of the History and Principles of Education.

JOHN JERMAIN PORTER, A. B., Assistant Professor of Metallurgy.

CHARLES NAPOLEON MOORE, Ph. D., Assistant Professor of Mathematics.

SAMUEL JAMES McINTOSH ALLEN, Ph. D., Assistant Professor of Physics.

MAX HENRY GOETTSCH, Ph. D., Assistant Professor of Industrial Chemistry.

EARL FREDERICK FARNAU, A. M., Instructor in Chemistry.

JOSEPH HENRY KINDLE, A. M., Instructor in Mathematics.

HARRY LEWIS WIEMAN, Ph. D., Instructor in Biology.

JAMES FRANCIS DILWORTH, A. M., Instructor in English History.

J. ERNEST CARMAN, B. S., Instructor in Geology.

STUDENTS, 1910-11.

(First semester.)

THE GRADUATE SCHOOL.

THE D. A. R. FELLOW IN AMERICAN HISTORY.

Mackzum, Henrietta Marie, St. Bernard, O..4612 Carthage Pike.
A. B., University of Cincinnati, 1909. (History.)

THE COLONIAL DAMES FELLOW IN OHIO VALLEY HISTORY.

Rover, Paul Philip, Cincinnati.....125 McMillan St.
A. B., University of Cincinnati, 1907. (History.)

THE HANNA FELLOW IN PHYSICS.

Rieman, Edward G., Cincinnati.....2287 Loth St.
A. B., University of Cincinnati, 1908. (Physics.)

THE TEACHING FELLOW IN BOTANY.

Lantis, Vernon, Cincinnati.....2115 Auburn Ave.
A. B., Miami University, 1909. (Biology.)

UNIVERSITY SCHOLARS.

Braam, Maximilian.....College Hill, O.
A. B., University of Cincinnati, 1906. (German.)

Carrington, Elizabeth Cabell, Cincinnati.....341 Forest Ave.
A. B., University of Cincinnati, 1909. (Mathematics.)

Foster, Joseph Buck, Cincinnati .....Lane Seminary.
A. B., Delaware College. (Political Science.)

Johnson, George Morton.....Blue Ash, O.
A. B., Wooster University, 1895; A. M., Wooster University, 1898. (Education.)

Revill, Jonette, Covington, Ky.....83 W. 11th St.
A. B., Georgetown College, 1909. (English.)

Shine, Mary Lambert, Covington, Ky.....1129 Madison Ave.
A. B., University of Cincinnati, 1902; A. M., University of Cincinnati, 1902. (History.)

GRADUATE STUDENTS.

Allgaier, Jennie, Cincinnati.....2921 Werk Rd.
A. B., University of Cincinnati, 1901. (English.)

Andriessen, Emma, Cincinnati.....116 Parker St.
A. B., University of Cincinnati, 1908. (German.)

Babbitt, Hildegarde M., Cincinnati.....Camden Ave.
A. B., University of Cincinnati, 1909. (Political Science.)

Bauer, Samuel G., Cincinnati.....1733 Fairfax Ave.
A. B., University of Cincinnati, 1909. (Mathematics.)

Bauer, Stanley M., Cincinnati.....1733 Fairfax Ave.
A. B., University of Cincinnati, 1909. (Mathematics.)

Beckett, Roy, Covington, Ky.....1041 Madison Ave.
B. L., Georgetown College, 1907. (History.)

Bentley, Mary Julia, Cincinnati.....3471 Evans Place.
A. B., University of Cincinnati, 1898. (Latin.)

Box, Cora M., Cincinnati.....275 McGregor Ave.
A. B., University of Cincinnati, 1904. (Biology.)

Bergman, Erick Frank, Cincinnati.....212 Calhoun St.
A. B., University of Cincinnati, 1908. (German.)

Black, Robert L., Cincinnati.....Baker Pl., Madison Rd.
A. B., Yale University, 1903; LL. B., Yale Law School, 1906. (English.)

Bloom, Irving Mortimer, Cincinnati.....203 Albany Ave.
A. B., Columbia University, 1908. (English.)

Braun, Annette Frances, Cincinnati.....2702 May St.
A. B., University of Cincinnati, 1906; A. M., University of Cincinnati, 1908. (Biology.)

Breece, Arthur Eugene, Cincinnati....The Helena, Burnet Ave.
A. B., Ohio Wesleyan University, 1887. (Mathematics.)

Buchanan, Jessie Leila, Norwood, O.....3918 Spencer Ave.
A. B., Western College, 1908. (Greek.)

Burnet, Whittier, Cincinnati.....3009 Mathers St.
Ph. B., Ohio State University, 1903. (Latin.)

Campbell, Joseph Bailey, Covington, Ky.....2119 Oakland Ave.
A. B., Chicago University, 1905. (Education.)

Clopper, Edward Nicholas, Cincinnati.....The Beechwood.
B. S., Bethany College, 1897. (Social Science.)

Corcoran, Effie, Cincinnati.....241 Piedmont Ave.
A. B., University of Cincinnati, 1909. (History.)

Cramer, William Gustavus, Cincinnati.....The Westmoreland.
A. B., University of Cincinnati, 1901; A. M., University of Cincinnati, 1909. (German.)

Davis, Ella, Cincinnati.....550 Prospect Place.
A. B., University of Cincinnati, 1908; A. M., University of Cincinnati, 1909. (Economics.)

Davis, James Monroe, Cincinnati.....1703 Kinney Ave.
A. B., Ohio Wesleyan University, 1896. (Education.)

Dickoré, Marie Paula, Cincinnati.....3530 Beechmont Ave.
A. B., University of Cincinnati, 1907; A. M., University of Cincinnati, 1908. (History.)

Dilley, Frank Brown, College Hill, O.....1511 Linden Ave.
A. B., Miami University, 1907. (Physics.)

Donnelly, Alice Moore, Cincinnati.....4307 Hamilton Ave.
B. L., University of Cincinnati, 1890. (Greek.)

Dunham, Amelia Hickenlooper, Cincinnati...2503 Auburn Ave.
A. B., University of Cincinnati, 1902. (English.)

Evans, Roberta Daniell, Norwood, O.....2335 Harper Ave.
A. B., University of Cincinnati, 1909. (English.)

Evans, William Andrew, Newport, Ky.....828 Washington Ave.
B. S., Denison University, 1906. (Chemistry.)

Farnau, Earl F., Covington, Ky.....20th & Scott Sts.
A. B., University of Cincinnati, 1905; A. M., University of Cincinnati, 1907. (Chemistry.)

Findley, Margaret Anne, Cincinnati.....319 Ludlow St.
B. L., University of Cincinnati, 1899. (Economics.)

Fouse, William Henry, Covington, Ky.....33 E. 9th St.
A. B., Otterbein University, 1893. (Education.)

Geismar, Siegfried, Cincinnati.....Albany Ave.
A. B., University of Cincinnati, 1908. (German.)

Gosling, Thomas Warrington, Cincinnati.....558 Evanswood.
A. B., Yale University, 1894; A. M., Yale University, 1904. (English Language, English Literature, and Romance Languages.)

Guethlein, Emma, Cincinnati.....743 E. Ridgeway Ave.
A. B., University of Cincinnati, 1909. (English.)

Hansen, Mrs. Hermine Zipperlen, Cincinnati.....Glencoe Hotel.
B. L., University of Cincinnati, 1898; A. M., University of Cincinnati, 1909. (German.)

Harvey, Gertrude Fay, Bond Hill, O.....1203 Woodland Ave.
A. B., University of Cincinnati, 1900. (Greek.)

Hathaway, Edward S., Cincinnati.....125 Saunders St.
A. B., University of Cincinnati, 1909. (Biology.)

Hecker, Charles, Cincinnati.....130 Calhoun St.
Ch. E., University of Cincinnati, 1909. (Chemistry.)

Henley, Ruth, Cincinnati.....423 Rockdale Ave.
A. B., Smith College, 1909. (History.)

Hoban, May Belle, Cincinnati.....1363 Myrtle Ave.
A. B., University of Cincinnati, 1903. (English.)

Homburg, Emil, Cincinnati.....104 W. Clifton Ave.
A. B., University of Cincinnati, 1902; A. M., University of Cincinnati, 1909. (Chemistry.)

Howell, Sara Jean, Cincinnati.....2611 Ashland Ave.
A. B., University of Cincinnati, 1900. (English.)

Ihrig, Roscoe Myrl, Cincinnati.....2147 St. James Ave.
Ph. B., Wooster University, 1901; Ph. M., University of Chicago, 1909. (German.)

Isaacs, Nathan Tovio, Cincinnati.....702 W. 9th St.
A. B., University of Cincinnati, 1907; A. M., University of Cincinnati, 1908. (Economics.)

Jenkins, Alexander Lewis, Cincinnati.....2350 Ohio Ave.
B. M. E., State College of Kentucky, 1904; M. M. E., University of Cincinnati, 1907. (Mathematics.)

Johnson, Pliny Andrew, Cincinnati.....1727 Hewitt Ave.
A. B., University of Cincinnati, 1901; A. M., University of Cincinnati, 1907. (Education.)

Kersting, Emma Sophia, Cincinnati.....145 Saunders St.
A. B., University of Cincinnati, 1904. (Mathematics.)

Kiely, Ellen Elizabeth, Cincinnati.....420 Broadway.
A. B., University of Cincinnati, 1903; A. M., University of Cincinnati, 1908. (History.)

Kindle, Joseph Henry, Cincinnati.....224 W. Liberty St.
A. B., Ohio State University, 1905; A. M., Ohio State University, 1907. (Mathematics.)

Kinsella, Arthur James, Cincinnati.....2613 Ashland Ave.
A. B., University of Cincinnati, 1903; A. M., University of Cincinnati, 1908. (Latin.)

Kohnky, Emma, Cincinnati.....Crown and Essex Place.
A. B., University of Cincinnati, 1909. (Psychology.)

Bentley, Mary Julia, Cincinnati.....3471 Evans Place.
A. B., University of Cincinnati, 1898. (Latin.)

Box, Cora M., Cincinnati.....275 McGregor Ave.
A. B., University of Cincinnati, 1904. (Biology.)

Bergman, Erick Frank, Cincinnati.....212 Calhoun St.
A. B., University of Cincinnati, 1908. (German.)

Black, Robert L., Cincinnati.....Baker Pl., Madison Rd.
A. B., Yale University, 1903; LL. B., Yale Law School, 1906. (English.)

Bloom, Irving Mortimer, Cincinnati.....203 Albany Ave.
A. B., Columbia University, 1908. (English.)

Braun, Annette Frances, Cincinnati.....2702 May St.
A. B., University of Cincinnati, 1906; A. M., University of Cincinnati, 1908. (Biology.)

Breece, Arthur Eugene, Cincinnati....The Helena, Burnet Ave.
A. B., Ohio Wesleyan University, 1887. (Mathematics.)

Buchanan, Jessie Leila, Norwood, O.....3918 Spencer Ave.
A. B., Western College, 1908. (Greek.)

Burnet, Whittier, Cincinnati.....3009 Mathers St.
Ph. B., Ohio State University, 1903. (Latin.)

Campbell, Joseph Bailey, Covington, Ky.....2119 Oakland Ave.
A. B., Chicago University, 1905. (Education.)

Clopper, Edward Nicholas, Cincinnati.....The Beechwood.
B. S., Bethany College, 1897. (Social Science.)

Corcoran, Effie, Cincinnati.....241 Piedmont Ave.
A. B., University of Cincinnati, 1909. (History.)

Cramer, William Gustavus, Cincinnati.....The Westmoreland.
A. B., University of Cincinnati, 1901; A. M., University of Cincinnati, 1909. (German.)

Davis, Ella, Cincinnati.....550 Prospect Place.
A. B., University of Cincinnati, 1908; A. M., University of Cincinnati, 1909. (Economics.)

Davis, James Monroe, Cincinnati.....1703 Kinney Ave.
A. B., Ohio Wesleyan University, 1896. (Education.)

Dickoré, Marie Paula, Cincinnati.....3530 Beechmont Ave.
A. B., University of Cincinnati, 1907; A. M., University of Cincinnati, 1908. (History.)

Dilley, Frank Brown, College Hill, O.....1511 Linden Ave.
A. B., Miami University, 1907. (Physics.)

Donnelly, Alice Moore, Cincinnati.....4307 Hamilton Ave.
B. L., University of Cincinnati, 1890. (Greek.)

Dunham, Amelia Hickenlooper, Cincinnati...2503 Auburn Ave.
A. B., University of Cincinnati, 1902. (English.)

Evans, Roberta Daniell, Norwood, O.....2335 Harper Ave.
A. B., University of Cincinnati, 1909. (English.)

Evans, William Andrew, Newport, Ky.....828 Washington Ave.
B. S., Denison University, 1906. (Chemistry.)

Farnau, Earl F., Covington, Ky.....20th & Scott Sts.
A. B., University of Cincinnati, 1905; A. M., University of Cincinnati, 1907. (Chemistry.)

Findley, Margaret Anne, Cincinnati.....319 Ludlow St.
B. L., University of Cincinnati, 1899. (Economics.)

Plaut, Emma Jeanette, Cincinnati.....3547 Bogart Ave.
A. B., University of Cincinnati, 1904. (Economics.)

Porter, John J., Cincinnati.....1342 Meier Ave.
A. B., University of Cincinnati, 1908. (Chemistry.)

Rabenstein, Matilda Agnes, Cincinnati....2816 Highland Ave.
A. B., University of Cincinnati, 1896; A. M., University of Cincinnati, 1899. (German.)

Roettinger, Elisabeth.....Wyoming, O.
A. B., Wells College, 1898. (English.)

Rosenberg, Adolph, Cincinnati.....612 Richmond St.
Gymnasium, Frankfurt, and University of Giessen. (Philosophy.)

Rowell, Mary E., Cincinnati.....849 Hutchins Ave.
A. B., University of Cincinnati, 1907. (Mathematics.)

Rubin, Joseph Maccabee, Palo Alto, Calif. & 2239 Frances Lane.
A. B., University of Wisconsin, 1908. (Philosophy.)

Ruecker, August, Cincinnati.....937 McPherson Ave.
B. D., Hartford Theological Seminary, 1907; Graduate Student, Ohio State University, 1909. (Philosophy.)

Russell, Francis M., Cincinnati.....Ashland and Myrtle Aves.
A. B., University of Cincinnati, 1904; A. M., University of Cincinnati, 1906. (Biology.)

Sanders, Ethel, Cincinnati.....2918 Montana Ave.
A. B., University of Cincinnati, 1907. (History.)

Schroerlucke, Laura Louise, Cincinnati.....Du Casse Hotel.
A. B., University of Cincinnati, 1909. (Mathematics.)

Seat, Elizabeth F., Norwood, O.....4534 Lafayette Ave.
A. B., Mary Sharp College, 1882. (English.)

Selbert, Louis, Cincinnati.....3514 Bevis Ave.
A. B., University of Cincinnati, 1909. (Romance Languages.)

Shinkle, Lulu Edith, Cincinnati.....Dennison Hotel.
A. B., Oxford College, 1909. (German.)

Shorten, Lauretta Quarry, Cincinnati.....24 San Rafael.
A. B., University of Cincinnati, 1908. (English.)

Siehl, Benjamin H., Cincinnati... ... .2220 Ohio Ave.
A. B., University of Cincinnati, 1906; A. M., University of Cincinnati, 1908. (Mathematics.)

Siehl, Charles Frederick, Cincinnati.....Lyon & Clifton Ave.
A. B., University of Cincinnati, 1906; A. M., University of Cincinnati, 1908. (Mathematics.)

Simrall, Josephine Price, Cincinnati.....Hedgerow Lane.
B. S., Wellesley College, 1893. (English.)

Spiegel, Grace, Cincinnati.....820 Laurel St.
A. B., University of Cincinnati, 1908. (English.)

Smith, Alfred, Cincinnati.....Ring Pl.
A. B., Wittenberg College, 1907. (Chemistry.)

Smith, Eliot, Cincinnati.....3384 Erie Ave.
A. B., University of Minnesota, 1903. (Physics.)

Smith, Joy Kelsey, Cincinnati.....20 E. 8th St.
A. B., Oberlin College, 1909. (English.)

Steinau, Irene Amberg, Cincinnati.....3123 Woodburn Ave.
A. B., University of Cincinnati, 1909. (History.)

Kohnky, Frances, Cincinnati.....Crown and Essex Place.
A. B., University of Cincinnati, 1908; A. M., University of Cincinnati, 1909. (Psychology.)

Kreimer, Edith, Cincinnati.....1826 Freeman Ave.
A. B., University of Cincinnati, 1909. (French.)

Lamdin, Lucy M., Cincinnati.....The Glencoe.
B. L., University of Cincinnati, 1894. (English.)

Lanz, Lea Blanche, Cincinnati.....548 Ridgeway Ave.
A. B., University of Cincinnati, 1908. (History.)

Latz, Charles Benjamin, Cincinnati.....878 Rockdale Ave.
A. B., University of Cincinnati, 1909. (Philosophy.)

Lazaron, Morris S., Cincinnati, Highland Ave. and McMillan St.
A. B., University of Cincinnati, 1909. (Philosophy.)

Leist, Amelia A., Norwood, O......4012 Elsmere Ave.
A. B., University of Cincinnati, 1907. (German.)

Levi, Isabelle Juliet, Bellevue, Ky.....106 Van Voast Ave.
A. B., University of Cincinnati, 1909. (Education.)

Levi, Ruth E., Cincinnati.....532 Prospect Place.
A. B., University of Cincinnati, 1909. (Psychology.)

Loeb, Florence, Cincinnati.....829 Rockdale Ave.
A. B., University of Cincinnati, 1909. (Education.)

Loebman, Elise Reis, Cincinnati.....524 Hickman St.
A. B., University of Cincinnati, 1909. (Economics.)

Lotspeich, Mrs. Helen Gibbons, Cincinnati.....The Delmoor.
Student, University of Leipsic, 1900-1902. (German.)

Lotze, Erna Magdalen, Cincinnati.....733 Ridgeway Ave.
A. B., University of Cincinnati, 1904; A. M., University of Cincinnati, 1909. (German.)

McCombs, Ethel Roberta, Ft. Thomas, Ky.....Bivouac Ave.
A. B., Wellesley College, 1909. (Education.)

McNelly, Nanabel, Cincinnati.....241 W. McMillan St.
A. B., University of Cincinnati, 1907. (Mathematics.)

Mack, Edward, Cincinnati.....Lane Seminary.
A. B., Davidson College, 1886; A. M., Davidson College, 1887. (Philosophy.)

Meitus, Joseph, Cincinnati.....512 Armory Ave.
Gymnasium, Elizabeth-Grad, Russia; M. D., Ohio Medical College, 1895. (Biology.)

Mitchell, Williams Carleton, Cincinnati.....4795 Morse St.
A. B., Lebanon College, 1889; B. D., Drew Seminary, 1893. (Economics.)

Oesper, Ralph Edward, Cincinnati.....2117 Langdon Ave.
A. B., University of Cincinnati, 1908; A. M., University of Cincinnati, 1909. (Chemistry.)

Parker, Mrs. Harriet Lewis, Cincinnati.....4169 Hamilton Ave.
B. L., Bucknell University, 1894. (Philosophy.)

Parker, William Hammond, Cincinnati.....4169 Hamilton Ave.
Ph. B., Bucknell University, 1897. (Economics, Political Science.)

Peaslee, Leon D., Cincinnati.....2356 Ohio Ave.
A. B., University of Cincinnati, 1907; A. M., University of Cincinnati, 1908. (Biology, Geology.)

INFORMATION FOR STUDENTS.

ADMISSION.

The degree of Bachelor of Arts conferred by the University of Cincinnati entitles its holder to admission to the Graduate School. The University also offers its degrees of Master of Arts and Doctor of Philosophy to graduates of other institutions of high standing who shall complete their work in conformity with the regulations of the Graduate School.

Students entering the Graduate School should apply to the Dean of the Graduate School, during the first week of either the first or second semester, between the hours of 9 and 12 A. M. If not a graduate of this university the applicant should be prepared to give proof of his academic degree or degrees, and should afford evidence of the character of the courses he has taken in the college from which he has been graduated. On the presentation of satisfactory credentials a card of admission to the Graduate School will be issued to the applicant. Students will not be admitted to the Graduate School after the third week of the semester.

FEES IN THE GRADUATE SCHOOL.

All fees must be paid in *advance* to the Clerk of the Board of Directors during the days of registration. If fees are not paid promptly, the Dean is authorized to exclude students from attendance upon their classes. *No University fees are refunded.*

Library Fee.—All graduate students are charged a library fee of five dollars per year.

Tuition.—Tuition is free to residents of Cincinnati. Graduate students not residents of the city are charged tuition at the rate of three dollars per credit hour. A credit hour is one hour's work a week carried through a semester or half year. For instance, tuition for a three-hour course would amount to nine dollars a semester or eighteen dollars per year. All tuition fees are payable in advance.

Laboratory Fees.

Geology, five dollars per semester, in advance.
Psychology, five dollars per semester, in advance.
Biology, ten dollars per semester, in advance.
Physics, ten dollars per semester, in advance. (Five dollars per semester, in advance, for a laboratory course of one period a week.)
Chemistry, fifteen dollars per semester, in advance.

A deposit of fifteen dollars at the opening of the semester is required of all students taking Chemistry, to insure the University against loss by breakage in the Chemical Laboratory. This

Tangeman, Horace F., Cincinnati.....1605 E. McMillan St.
A. B., Miami University, 1908. (History.)

Thomas, Mrs. Alma Holdt, Cincinnati.....2626 May St.
A. B., University of Cincinnati, 1900. (German.)

Thorndyke, Elizabeth F., Cincinnati.....3535 Bevis Ave.
A. B., University of Cincinnati, 1909. (History.)

Trimble, James Rolf, Cincinnati.....224 W. Liberty St.
A. B., Harvard University, 1906. (Mathematics.)

Umphrey, Mrs. Gertrude Smith, Cincinnati.....The Rutland.
A. B., University of Michigan, 1905. (Romance Languages.)

Wise, Isaac Meyer, Cincinnati.....3816 Dakota Ave.
A. B., University of Cincinnati, 1908. (Philosophy.)

Wolf, Jane Esther, Cincinnati.....3241 Jefferson Ave.
A. B., University of Cincinnati, 1906. (Romance Languages.)

Wood, Milo N., Cincinnati.....2442 Ohio Ave.
Ph. B., Adrian College, 1904. (Philosophy.)

Wurtz, Louise B., Cincinnati.....3025 Beekman St.
A. B., University of Cincinnati, 1904. (Latin.)

Yowell, Everett I., Cincinnati.....Corbett & Griest Sts.
C. E., University of Cincinnati, 1891; M. S., University of Cincinnati, 1893. (Astronomy.)

Total.....115

INFORMATION FOR STUDENTS.

ADMISSION.

The degree of Bachelor of Arts conferred by the University of Cincinnati entitles its holder to admission to the Graduate School. The University also offers its degrees of Master of Arts and Doctor of Philosophy to graduates of other institutions of high standing who shall complete their work in conformity with the regulations of the Graduate School.

Students entering the Graduate School should apply to the Dean of the Graduate School, during the first week of either the first or second semester, between the hours of 9 and 12 A. M. If not a graduate of this university the applicant should be prepared to give proof of his academic degree or degrees, and should afford evidence of the character of the courses he has taken in the college from which he has been graduated. On the presentation of satisfactory credentials a card of admission to the Graduate School will be issued to the applicant. Students will not be admitted to the Graduate School after the third week of the semester.

FEES IN THE GRADUATE SCHOOL.

All fees must be paid in *advance* to the Clerk of the Board of Directors during the days of registration. If fees are not paid promptly, the Dean is authorized to exclude students from attendance upon their classes. *No University fees are refunded.*

Library Fee.—All graduate students are charged a library fee of five dollars per year.

Tuition.—Tuition is free to residents of Cincinnati. Graduate students not residents of the city are charged tuition at the rate of three dollars per credit hour. A credit hour is one hour's work a week carried through a semester or half year. For instance, tuition for a three-hour course would amount to nine dollars a semester or eighteen dollars per year. All tuition fees are payable in advance.

Laboratory Fees.

Geology, five dollars per semester, in advance.
Psychology, five dollars per semester, in advance.
Biology, ten dollars per semester, in advance.
Physics, ten dollars per semester, in advance. (Five dollars per semester, in advance, for a laboratory course of one period a week.)
Chemistry, fifteen dollars per semester, in advance.

A deposit of fifteen dollars at the opening of the semester is required of all students taking Chemistry, to insure the University against loss by breakage in the Chemical Laboratory. This

deposit will be returned at the end of the year after deductions have been made for breakage.

A student who elects a laboratory course shall not be permitted to enter such a course until he presents to the instructor in charge a receipt for the payment of his laboratory fee.

Diploma Fees.—A diploma fee of ten dollars is required of those who receive the Master's degree and twenty dollars of those who receive the Doctor's degree. This fee must be paid at least two weeks before the day appointed for conferring the degree. If for any reason the degree is not conferred the fee will be returned.

INSTRUCTION.

The unit of instruction in the Graduate School is one hour a week for one semester.

The nature of the graduate student's work will vary with the subjects pursued, but it is intended that the student's work shall require a regular attendance at class meetings or in the laboratory, and shall not be in any respect of that character of work known as "in absentia." No credit will be given toward a graduate degree for work done prior to the conferring of the degree of Bachelor of Arts or its equivalent. No course in which a student obtains a grade below "B" will count for credit in the Graduate School.

REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS.

In order to receive the Master's degree the candidate must have completed satisfactorily courses representing twenty-four units of graduate instruction, at least twelve units of which shall be elected in one department. In case the candidate has previously elected the work in the department as a major for the completion of the undergraduate degree, he shall, under the direction of the head of the department concerned, elect sufficient work in some allied department to complete the required twelve units. The requirement of a thesis is optional with the head of the department in which the major subject is taken. Wherever a thesis for the Master's degree is required, it must be filed with the Registrar not less than six weeks before the close of the final semester of graduate study. The work for the Master's degree shall occupy the attention of the student for at least one full year in residence in the Graduate School.

REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY.

For the Doctor's degree three years of graduate study will ordinarily be required. In exceptional cases a student may be admitted to examinations at the end of two years. Where his

college training has been defective or he cannot devote his whole time to the work, the period of study will be longer than three years. At least the last year of study must be spent in residence at the University of Cincinnati. Students may be permitted to count for the Doctor's degree work done for the Master's degree, provided such work is of a satisfactory character.

A candidate for the Doctor's degree shall designate, at the time of his admission to the Graduate School, three subjects which he desires to pursue. These shall be known as a major and two minor subjects, not more than two of which shall be selected in one department, and the candidate shall satisfy the Dean of the Graduate School that his selection has received the approval of the heads of the departments in which the courses have been selected. These heads of departments, together with the Dean of the Graduate School, shall constitute an Advisory Committee, under whose direction the candidate shall pursue his graduate course.

A candidate for the Doctor's degree is expected to be able to read French and German, and shall be required to complete forty-eight units of instruction embodied in a major and two minor subjects, thirty units of which must be given to the major subject, and to pass such written examinations on his major and minor subjects as the Advisory Committee may indicate. The statement of the number of units required for the Doctor's degree is to be taken as a minimum requirement. The degree is given, not as a result of the completion of a certain number of units of study, but on the basis of long study and scientific accomplishment.

The candidate shall furthermore be required to present, in such form as the Advisory Committee may determine, a thesis which will give evidence of high attainment and power of independent research, and he shall pass satisfactorily an oral examination before the faculty.

All theses offered for the Doctor's degree must be filed with the Registrar not later than six weeks before the close of the final semester of graduate study. Moreover, each student upon whom the degree of Doctor of Philosophy is conferred, is required to deposit in the University Library one hundred printed copies of his thesis. The candidate may receive his diploma before the thesis is printed, provided a type-written copy is deposited with the Librarian and the sum of fifty dollars with the Registrar of the University. This sum will be returned upon presentation to the Library of the required number of printed copies of the thesis.

ADMISSION TO ADVANCED STANDING.

Work done at other universities may be accepted as an equivalent for part of the work required for a graduate degree.

All claims for such credit, together with all claims for advanced standing, must be filed with the Dean of the Graduate School within three weeks after the student enters upon his work at the University or resumes his work after a leave of absence for the purpose of carrying on work at another university.

At least twelve credits of the twenty-four required for the Master of Arts degree must be obtained through work done in residence at the University of Cincinnati.

SPECIAL ARRANGEMENT FOR GRADUATE STUDENTS IN LANE SEMINARY AND IN THE HEBREW UNION COLLEGE.

Courses in Hebrew taken in Lane Seminary and in the Hebrew Union College by graduates of recognized colleges and universities may count to the extent of twelve hours for the Master of Arts degree.

FELLOWSHIPS AND SCHOLARSHIPS.

There are at present three fellowships, a traveling scholarship, and ten University scholarships open to students of the Graduate School. The fellowships and traveling scholarships carry a stipend of from one hundred to five hundred dollars. (See list given below.) The emolument of the University scholarships is sufficient for the payment of tuition fees. Applications should be addressed to the Dean of the Graduate School.

FOUNDATIONS.

In the year 1900 the Daughters of the American Revolution established a Fellowship in American History, yielding an income of $100 per year.

In the year 1904 the Alliance Française of the city of Cincinnati established a Scholarship of $300, to be awarded to the student in the Department of Romance Languages showing the greatest proficiency in French. The successful candidate is required to attend the summer course of instruction given by the Alliance Française in Paris.

In the year 1906 the Society of Colonial Dames established a Fellowship in Ohio Valley History of the value of $300 a year.

In the same year Mrs. Henry Hanna and Miss Mary Hanna established a Fellowship in Physics, in honor of Mr. Henry Hanna. The value of this fellowship is $500 a year.

organs of the body. This course must be accompanied by Course 16a. *First semester*, M., W., F., 10:30-11:30. Dr. Wieman.

Course 15a is open to students who have passed in Courses 1a, 2a, 3b, 4b.

Courses 15a and 19a are given in alternate years; 15a is given in 1910-11.

16a. Embryology, Laboratory.—The work is based largely on the frog, chick, and pig. *First semester*, M., W., 1:00-4:00. Dr. Wieman.

Course 16a is open to students who have passed in Courses 1a, 2a, 3b, 4b.

Courses 16a and 20a are given in alternate years; 16a is given in 1910-11.

17b. Vertebrate Zoology and Comparative Anatomy.—Lectures on the anatomy, classification, habits, and distribution of vertebrates, to be accompanied by a study of the living forms in the field and at the Zoological Garden. The anatomy is studied in a comparative way, with special reference to the evolution of the various organs. This course must be accompanied by Course 18b. *Second semester*, M., W., F., 10:30-11:30. r. Wieman.

Course 17b is open to students who have passed in Courses 15a and 16a.

Courses 17b and 21b are given in alternate years; 17b is given in 1910-11.

18b. Comparative Anatomy of Vertebrates, Laboratory.—The work consists in the careful dissection and study of selected forms. *Second semester*, M., W., 1:00-4:00. r. Wieman.

Course 18b is open to students who have passed in Courses 15a and 16a.

Courses 18b and 22b are given in alternate years; 18b is given in 1910-11.

19a. Animal Histology.—Lectures and recitations upon the microscopic structure of tissues and organs. This course must be accompanied by Course 20a. *First semester*, M., W., F., 10:30-11:30. Dr. Wieman.

Course 19a is open to students who have passed in Courses 1a, 2a, 3b, 4b.

Courses 19a and 15a are given in alternate years; 19a is omitted in 1910-11.

20a. Animal Histology, Laboratory.—Practical studies on the microscopic anatomy of animal tissues and organs. *First semester*, M., W., 1:00-4:00. Dr. Wieman.

Course 20a is open to students who have passed in Courses 1a, 2a, 3b, 4b.

Courses 20a and 16a are given in alternate years; 20a is omitted in 1910-11.

21b. Physiology.—Discussion of the fundamental principles of physiology and their application to the human body. This

Theoretical Astronomy. First semester; hours to be arranged.
Professor Porter.

5b. Computation of a parabolic orbit from three observations, and of an elliptic orbit with perturbations. Text-book: Watson's *Theoretical Astronomy. Second semester;* hours to be arranged.
Professor Porter.

Courses 4a and 5b are given at the Observatory.

*BIOLOGY.

Professor Guyer, Associate Professor Benedict, Dr. Wieman.

To pursue advanced courses in biology the student should have some training in physics and chemistry, and should be able to read French and German. Special facilities are afforded students pursuing courses of research.

REQUIREMENTS FOR DEGREES.

To enter upon work for the degree of Master of Arts in zoology students must have completed courses 1a, 2a, 3b, 4b, 10b, 15a, 16a, 17b, 18b, or their equivalents. Courses for "Undergraduates and Graduates" may be counted as graduate subjects toward the degree of Master of Arts by students who elect their majors in other departments. When zoology is chosen as a minor for the degree of Doctor of Philosophy, the work required approximates that of the full course for the degree of Master of Arts in zoology. The requirements for a higher degree, when biology is chosen as a major subject, are adequately stated under the general requirements for degrees (page 23).

LABORATORIES.

The Biological Department occupies the east half of the basement and the second and third floors of Cunningham Hall. The fixtures have been carefully designed to meet all of the requirements of modern biological work, and the laboratories are well provided with optical apparatus and the various instruments of biological technique. Besides these, a liberal supply of more special appliances is at the service of the investigator. Special laboratories are provided for students taking advanced courses and courses of research.

FOR UNDERGRADUATES AND GRADUATES.

15a. Embryology of Vertebrates.—Lectures and demonstrations dealing with the history of the germ cells, cleavage of the ovum, embryo formation, and the development of the principal

* For a statement of the undergraduate courses prerequisite to advanced work in Biology, see the announcement of the McMicken College of Liberal Arts.

organs of the body. This course must be accompanied by Course 16a. *First semester*, M., W., F., 10:30-11:30. Dr. Wieman.

Course 15a is open to students who have passed in Courses 1a, 2a, 3b, 4b.

Courses 15a and 19a are given in alternate years; 15a is given in 1910-11.

16a. Embryology, Laboratory.—The work is based largely on the frog, chick, and pig. *First semester*, M., W., 1:00-4:00. Dr. Wieman.

Course 16a is open to students who have passed in Courses 1a, 2a, 3b, 4b.

Courses 16a and 20a are given in alternate years; 16a is given in 1910-11.

17b. Vertebrate Zoology and Comparative Anatomy.—Lectures on the anatomy, classification, habits, and distribution of vertebrates, to be accompanied by a study of the living forms in the field and at the Zoological Garden. The anatomy is studied in a comparative way, with special reference to the evolution of the various organs. This course must be accompanied by Course 18b. *Second semester*, M., W., F., 10:30-11:30. r. Wieman.

Course 17b is open to students who have passed in Courses 15a and 16a.

Courses 17b and 21b are given in alternate years; 17b is given in 1910-11.

18b. Comparative Anatomy of Vertebrates, Laboratory.—The work consists in the careful dissection and study of selected forms. *Second semester*, M., W., 1:00-4:00. r. Wieman.

Course 18b is open to students who have passed in Courses 15a and 16a.

Courses 18b and 22b are given in alternate years; 18b is given in 1910-11.

19a. Animal Histology.—Lectures and recitations upon the microscopic structure of tissues and organs. This course must be accompanied by Course 20a. *First semester*, M., W., F., 10:30-11:30. Dr. Wieman.

Course 19a is open to students who have passed in Courses 1a, 2a, 3b, 4b.

Courses 19a and 15a are given in alternate years; 19a is omitted in 1910-11.

20a. Animal Histology, Laboratory.—Practical studies on the microscopic anatomy of animal tissues and organs. *First semester*, M., W., 1:00-4:00. Dr. Wieman.

Course 20a is open to students who have passed in Courses 1a, 2a, 3b, 4b.

Courses 20a and 16a are given in alternate years; 20a is omitted in 1910-11.

21b. Physiology.—Discussion of the fundamental principles of physiology and their application to the human body. This

course must be accompanied by Course 22b. *Second semester*, M., W., F., 10:30-11:30. Dr. Wieman.

Course 21b is open to students who have passed in Courses 19a and 20a.

Courses 21b and 17b are given in alternate years; 21b is omitted in 1910-11.

22b. Physiology, Laboratory.—The student is required to perform the classical experiments on blood, circulation, respiration, absorption, muscle and nerve, central nervous system, and sense organs. *Second semester*, M., W., 1:00-4:00. Dr. Wieman.

Course 22b is open to students who have passed in Courses 19a and 20a.

Courses 18b and 22b are given in alternate years; 22b is omitted in 1910-11.

23. Field Work.—Practical directions for collecting, identifying, and preserving specimens will form a minor part of the work. Each student is assigned a special problem. The work may be taken as a two or a three hour course. Hours to be arranged. Associate Professor Benedict.

Course 23 is open to only those students who have passed in the elementary courses in botany or zoology.

24a. Plant Histology.—Lectures on the general histology of the Spermatophytes, special attention being given to the physiological adaptations of the tissues to their functions. This course must be taken in connection with Course 25a. *First semester*, T., 10:30-11:30. Associate Professor Benedict.

Course 24a is open to students who have passed in Courses 5a, 6a, 7b, 8b.

25a. Plant Histology, Laboratory.—In this course the student will be given sufficient practice in microscopical botanical technique to enable him to prepare the slides which he will use in his laboratory study of the tissues of selected plants. Accurate drawing and descriptions will be required. A few exercises on the identification of food adulterations will be given. This course must be taken in connection with Course 24a. *First semester*, M., W., 1:00-4:00. Associate Professor Benedict.

26b. The Reproduction and Embryology of the Spermatophytes.—Lectures on the origin and nature of sexual reproduction in the flowering plants and the general principles of Spermatophyte embryology. This course must be taken in connection with Course 27b. *Second semester*, T., 10:30-11:30.
Associate Professor Benedict.

Course 26b is open to students who have passed in Courses 24a and 25a.

27b. Reproduction of the Angiosperms.—A laboratory investigation of the origin of the sex cells and the formation of the seed in selected Angiosperms. While a few special slides will be supplied the student will be required to make his own preparations. This course must be taken in connection with Course 26b. *Second semester*, M., W., 1:00-4:00.
Associate Professor Benedict.

PRIMARILY FOR GRADUATES.

30. Current Problems in Biology.—Assigned readings and discussions to accompany courses of research. A reading knowledge or French or German is required. Th., 4:00-6:00.
Dr. Wieman.

31. Research.—Hours to be arranged.
Professor Guyer and Associate Professor Benedict.

32a. Anatomy and Physiology of the Cell; Non-Developmental Phenomena.—Lectures on the structure and function of cells other than the germ cells. *First semester*, M., W., 4:00-5:00.
Professor Guyer.

33b. Anatomy and Physiology of the Cell; the Germ Cell.—Lectures dealing with the cell from the viewpoint of development and inheritance. *Second semester*, M., W., 4:00-5:00.
Professor Guyer.

34. Cytology, Laboratory.—A laboratory course intended to serve as an introduction to cytological technique and to the general field of cellular biology. Each student is assigned a special problem. T., Th., 1:00-4:00. Professor Guyer.

*CHEMISTRY.

Professor Jones, Assistant Professor Fry, Assistant Professor Porter, Assistant Professor Goettsch, Mr. Farnau.

PREFATORY.

There never was a period when chemistry touched the various sciences and the demands of practical life at so many points as it does at the present time. This manifold relationship has made it necessary to arrange courses in chemistry which may be sufficiently varied to suit the requirements of many classes of students. A choice of consecutive courses may be made by students who are taking chemistry as a disciplinary study, and with a desire to complete a general education. Many courses have been offered which have a definite and intimate relationship to the industrial activities of modern life. Furthermore, a number of specialized courses of an advanced character have been announced to give the proper training to those students who may wish to carry on graduate work in the nature of research leading to a Master's or a Doctor's degree. For all advanced

* For a statement of the undergraduate courses prerequisite to advanced work in Chemistry, see the announcement of the McMicken College of Liberal Arts.

work in chemistry students must acquire a reading knowledge of German and French very early in the course, since an acquaintance with these languages is assumed in the later work.

EQUIPMENT.

The Department of Chemistry occupies quarters in Hanna Hall Annex and the first floor of Hanna Hall. The main laboratories are devoted to general inorganic chemistry, elementary organic chemistry, qualitative and quantitative analysis. There are special laboratories arranged for courses in organic, physical, and technical chemistry. A thoroughly equipped laboratory has been provided for advanced metallurgical work. Several private laboratories are provided for instructors, and for graduate students who are engaged in research. The laboratories are open from 8.30 a. m., to 5 p. m. on every working day except Saturday, when they close at 1:00 o'clock. Concerning the laboratory fees and special deposit, see page 22.

THE LIBRARY.

A departmental library, comprising about 2,000 volumes, has quarters on the first floor of Hanna Hall. It contains complete series of the important periodicals in English, German, French, and Italian, and a large number of the current journals of chemistry are kept on file. The standard hand-books and works of reference, and many special and technical works of recent publication are available. Treatises necessary for advanced work or research work will be obtained to meet the particular needs of students pursuing such work.

SPECIAL REQUIREMENTS FOR HIGHER DEGREES.

The Degree of Doctor of Philosophy.

Candidates for the degree of Doctor of Philosophy must have a broad preparation in the fundamental branches of chemistry. The character of this training can be defined best by reference to the list of courses under "A" below. The completion of these courses, however, does not satisfy the requirements made of the candidate for a higher degree; he must show a maturity acquired by personal intimacy with the literature and method of chemistry.

A. Chemistry as the Major Subject.—All candidates who make chemistry their major subject must offer the following courses or their equivalents (see Chemistry, Liberal Arts): 1a, 2a, 3b, 4b, 5a, 6, 7b, 8a, 9a, 12, 13. In addition to these requirements, students who specialize in a certain branch of chemistry must complete the following courses in accordance with their choice, before receiving the degree:

(a) *Inorganic Chemistry*: 10b, 11b, 21 (one semester); 17 (one semester); and ten credit hours elected from Courses 14a, 15a, 16a, 20, 24, 28b, 34, 35b.

(b) *Organic Chemistry*: 20, 21, 35b, 17 (one semester); and ten credit hours elected from Courses 10b, 11b, 14a, 18, 24, 28b, 34.

(c) *Physical Chemistry*: 10b, 20, 34, 17 (one semester); and ten credit hours elected from Courses 14a, 19a, 11b, 21, 24, 28, 35b.

B. Chemistry as the Minor Subject.—It is not possible to state precisely those courses which may be required in each particular case. The choice will be made after consultation with the heads of the departments in which the major work falls. The usual requirements will be Courses 1a, 2a, 3b, 4b, 5a, 6, 7b. If the candidate has chosen one of the physical sciences as his major subject, Courses 12 and 13 (one semester) will be required; if one of the biological sciences has been made the major subject, Courses 8a and 9a will be taken.

The Master's Degree.

The Department of Chemistry requires that at least sixteen of the twenty-four credit hours shall be taken in chemistry. The student must present a thesis embodying the results of some experimental work, or a written account in some detail upon a subject suggested by the instructor under whose direction the student has been placed.

FOR UNDERGRADUATES AND GRADUATES.

10b. Advanced Inorganic Chemistry.—Three exercises a week during the second semester. In this course the less familiar elements and compounds and the more recent theories of inorganic chemistry are discussed. T., Th., S., 8:30-9:30.
Assistant Professor Goettsch.

Prerequisite: Courses 5a, 6, and 7b.

11b. Inorganic Preparations.—Three laboratory exercises a week during the second semester. Preparation of specimens of inorganic compounds. M., W., F., 1:00-4:00.
Assistant Professor Goettsch.

Prerequisite: Course 7b.

12. Physical Chemistry.—Lectures and recitations. A general introductory course of three exercises a week throughout the year. T., Th., S., 11:30-12:30. Mr. Farnau.

Prerequisite: Courses 5a, 6, and 7b; Physics, 1 year; Math. 5.

13. Physical Chemistry, Laboratory.—Two exercises a week throughout the year, illustrating the general static and dynamic methods of physical and electro-chemistry. This course must be accompanied by Course 12. Th., F., 1:00-4:00. Mr. Farnau.

Prerequisite: Same as Course 12.

20. Advanced Organic Chemistry.—Lectures, embracing a systematic study of the principles and practice of organic chemistry, and treating of the modes of formation, properties, reactions, and constitution of typical members of the most important classes of organic compounds. T., Th., S., 9:30-10:30.
Professor Jones.

Prerequisite: Courses 5a, 6, 7b, 8a, 9a, and a reading knowledge of German and French.

21. Advanced Organic Chemistry, Laboratory.—Practice in the preparation of a number of typical organic compounds. This course requires considerable reading in the journals of chemistry and in various hand-books and works of reference. M., W., F., 1:00-4:00. Professor Jones.

Prerequisite: As in Course 20.

24. History of Chemistry.—This course embraces a review of the various hypotheses concerning the ultimate constitution of matter, and considers the development of the fundamental laws of the science of chemistry Special attention is directed to the classical memoirs of the Greek Philosophers, the tenets of the Alchemists, and those researches of the past century that have developed the Atomic and Structure Theories of modern chemistry. Lectures, collateral readings and papers. M., Th., 4:00-5:00. Assistant Professor Fry.

Prerequisite: 5a, 6, 8a and 9a, or 20 and 21.

28b. Elementary Spectrum Analysis (Qualitative).—The course consists largely of laboratory work. The emission (flame and electric sparks) and absorption spectra of inorganic and some organic substances are studied from the chemist's point of view. Two periods a week. Hours to be arranged.
Professor Jones.

Prerequisite: 5a, 6, 8a, 9a; Physics, 1 year.

PRIMARILY FOR GRADUATES.

30. Research.—This course requires at least eight periods of laboratory work per week under the direction of some instructor in the department. Problems for investigation may be chosen from the following: organic chemistry (30a), inorganic chemistry (30b), physical chemistry (30c), or industrial chemistry (30d). Professor Jones, Assistant Professor Fry,
Assistant Professor Porter, Assistant Professor Goettsch.

34. Mathematical Chemistry.—A study of the application of exact and approximate mathematics in physical science. Two periods a week. Hours to be arranged. Mr. Farnau.

Prerequisite: Chemistry 12, 13; Math. 8a, 9b.

35b. Some Special Problems and Theories of Organic Chemistry.—A critical discussion of the working hypotheses and the theories of organic chemistry. With this end in view, their application to the difficulties of certain complex cases are presented in detail. Topics for consideration are chosen from the following: optical and geometrical isomerism of compounds of carbon, nitrogen, and other elements; bivalent carbon derivatives; oxonium compounds; purine derivatives; the carbohydrates; the alkaloids; the terpines; tautomerism; the polypeptides, proteins, etc. *Second semester.* Two hours a week, to be arranged.
Professor Jones.

40. Journal Club Meetings.—Instructors and advanced students of the department present papers dealing with subjects under investigation in the department, or critical reviews of papers of general interest to those engaged in advanced work or research. All students interested in chemistry are invited to attend. Meetings are held fortnightly, and last one hour. Subjects to be discussed are announced one week in advance.

ECONOMICS.

(The Sinton Professorship.)

Professor Hicks.

Undergraduate Course 1, **Economics**, is prerequisite to certain courses, as shown below.

FOR UNDERGRADUATES AND GRADUATES.

2a. Economic History.—A study of the industrial development of society since the tenth century. The subjects considered include the local industry of feudalism, the manorial and guild systems; the rise of nationalism; the colonial policy and national regulation of industry under the mercantile system; the industrial revolution, 1750-1850; and the distinguishing features of the complex and highly developed economic organization of modern times, together with the problems arising therefrom. *First semester*, T., Th., 11:30-12:30. Professor Hicks.

3b. Economic History of the United States.—The economic development of the United States from 1789 to the present: territorial expansion and growth of population; extractive industries, especially agriculture and mining; manufactures; trade, domestic and foreign; transportation facilities: canals, railroads, and the merchant marine; experiments in money and banking; tariff; industrial corporations and trusts; labor and labor organizations; and government regulation of industry. *Second semester*, T., Th., 11:30-12:30. Professor Hicks.

4. Current Economic Problems.—The following subjects are studied during 1910-11:

(a) First semester: tariff, money, and banking.

(b) Second semester: public finance. M., W., 3:00-4:00.
Professor Hicks.

Course 4 is open to students who have had Course 1 or Course 6.

5. **Selected Readings.**—The primary purpose of this course is to afford opportunity for more extended study of the subjects considered in the preceding courses, but it may be taken by those who desire to pursue systematic reading in the field of economics, provided they are prepared to enter upon such work with profit. Special attention is given to the literature of the topic selected. F., 11:30-12:30 or 3:00-4:00. Professor Hicks.

Course 5 is recommended to students who have elected Course 1, 2a, 3b, or 4. Credit, one or two hours.

PRIMARILY FOR GRADUATES.

6. **Economic Theory.**—An advanced course in the elements of economics. The work consists in a comparative study of the views of representative economists. M., 4:00-6:00.
Professor Hicks.

7. **Seminary.**—Opportunity is here given for the detailed study of specific problems in economics. Credit according to work done. W., 4:00-. Professor Hicks.

EDUCATION.

Professor Burris, Professor Hall, Assistant Professor Ballou.

FOR UNDERGRADUATES AND GRADUATES.

Undergraduate Course 1, **History and Principles of Education,** is prerequisite to certain advanced courses in Education, as shown below.

Education 3. Principles and Problems of Secondary Education.—This course is intended especially for advanced students and teachers who contemplate appointment to high school positions. The first part of the course considers the principles of secondary education, with special reference to those derived from the psychology of adolescence. The second part of the course will be devoted to a critical consideration of the problems of high school organization, with special reference to courses of study, relative values of studies, and methods of instruction.

Those who have not had college courses in psychology and the history of education must obtain special permission from the Dean of the College for Teachers before registering for the course. T., 3:00-5:00, throughout the year.
Assistant Professor Ballou.

Omitted in 1910-11.

PRIMARILY FOR GRADUATES.

Education 5. Philosophy of Education.—Lectures, required readings, and discussions. The first part of the course presents an integrated view of the facts of the various sciences having educational significance, for the purpose of arriving at a philosophical definition of education as a whole. The second part of the course will deal with the organization of elementary education as determined by its philosophical meaning thus derived, and as modified by practical considerations. In appropriate connections there will be special consideration of the

process of education as world building. The historical and logical origin, meaning, and classification of studies will be briefly considered. Special attention will be given to the question, what happens when we try to know, and to the place of symbolism and systems of imitational and inventional expression in education. Credit will be given only to those who take the course throughout the year. S., 8:30-9:30, throughout the year.
Professor Burris.

Education 7. Seminar.—Investigations and reports on special problems, chiefly in educational administration. Primarily for graduates, but open also to teachers of experience. M., 4:00-6:00. Professor Burris.
Omitted in 1910-11.

Education 17. Educational Classics.—An advanced course in the history of education. From year to year it will consist of a critical study of the more important writings of "Great Educators" of special periods. For the year 1910-11 the period covered will be the nineteenth century. Open to those who have passed in Education 1 or its equivalent. W., 4:00-6:00, throughout the year. Professor Burris.

Education 12. Seminar.—Investigations and reports on problems in the theory and practice of teaching. Place of meeting to be arranged. W., 4:00-6:00, throughout the year.
Professor Hall.

ENGLISH.

Professor ———, Associate Professor Miller,

Assistant Professor McVea.

FOR UNDERGRADUATES AND GRADUATES.

7a. Old English Prose.—An elementary reading course in Old English, the texts being taken from Bright's *Anglo-Saxon Reader. First semester*, M., W., F., 10:30-11:30.
Professor ———.

Course 7a is prerequisite to Courses 8b and 9, and is required of all students who choose English as a major subject. Further conditions for a major in English may be satisfied by Courses 8b and 9.

8b. Old English Poetry.—*Beowulf* or some other long poem, supplemented by readings in the history of Old English literature. *Second semester*, M., W., F., 10:30-11:30.
Professor ———.

9. English Literature from the Conquest to the Death of Chaucer.—In the first semester selected works are read (Emerson, *Middle English Reader*) which illustrate the development of English literature and the English language before Chaucer. The second semester will be devoted to the life and works of Chaucer. Th., 3:00-5:00. Professor ———.

Course 9 is given in alternate years; it is given in 1910-1911.

12. **Literary Composition.**—This course considers the various prose literary forms from the point of view of original composition. Only those students are admitted to the course who satisfy the instructor of their ability to write well. Hours to be arranged. Assistant Professor McVea.

14. **The English Drama before Shakspere.**—The origins of the English drama and its earlier manifestations in miracle plays, moralities, and interludes are studied. M., W., F., 11:30-12:30. Associate Professor Miller.

17. **Literary Criticism.**—The development of English literary criticism from Ascham to Pater, with a brief discussion of American literary criticism and of the characteristics of criticism as a literary form. T., Th., 3:00-4:00.
Associate Professor Miller.

19b. **The English and Scottish Popular Ballads.**—A study of the characteristics of folk-poetry and of the origin and development of the popular ballad. *Second semester*, T., Th., 9:30-10:30.
Associate Professor Miller.
Omitted in 1910-11.

FOR GRADUATES ONLY.

20. **English Seminary.**—Subject and hours to be announced.
Professor ————.

GEOLOGY AND GEOGRAPHY.

Professor Fenneman and Mr. Carman.

The Department of Geology and Geography occupies the fourth floor of McMicken Hall, except a part of the space used for a museum of zoology and geology. A general laboratory is used for work with maps and fossils and for work with hand specimens of rocks and minerals, with only such apparatus and reagents as may be carried in the field. A laboratory for determinative mineralogy and another for microscopic petrography are equipped with appliances and instruments of the most modern type.

A seminar room contains the departmental library and current geologic and geographic periodicals, together with all reference maps, topographic, geologic, and geographic, belonging to the department. Graduate students may be allowed private desks in the petrographic laboratory, which communicates with the seminar room. A lecture room, seating thirty-six students, is equipped with a stereopticon of the highest grade and with the customary models and illustrative material.

13. **Gothic**—Braune's *Gotische Grammatik;* reading of selections from Ulfilas; lectures on Germanic philology. M., 4:00-6:00. Assistant Professor Lotspeich.

Omitted in 1910-11.

26. **Old Norse.**—Kahle's *Altislaendisches Elementarbuch.* Reading of selections from the Sagas. In the second semester selected poems of the Edda will be read. W., 4:00-6:00. Assistant Professor Lotspeich.

Omitted in 1910-11.

35. **History of German Literature to the Nineteenth Century.**—This will be substantially the same as Course 5, slightly rearranged, however, to meet the needs of teachers. T., 4:00-6:00. Professor Poll.

9. **German Seminary.**—Critical study of Wolfram's *Parzival.* Th., 4:00-6:00. Professor Poll.

Omitted in 1910-11.

GREEK.

Professor Harry.

Many casts of works of antique art have been installed in the Greek room and in the corridors of the University. Students in both undergraduate and graduate courses also have opportunities to study the casts in the Cincinnati Art Museum.

FOR UNDERGRADUATES AND GRADUATES.

13. **Greek Art.**—A course in the grammar and history of Greek art, including architecture. Special attention is given to the spirit and principles of plastic art, to the influence of religion and athletics, to the temples and their decorations, and to the masterpieces of the great Greek sculptors. T., 10:30-11:30. Professor Harry.

The class is limited to twenty-five students.

PRIMARILY FOR GRADUATES.

5. **Rapid Reading in the Historians.**—W., 3:00-4:00. Professor Harry.

6. **Practical Exercises in Greek.**—F., 3:00-5:00. Professor Harry.

7. **Greek Seminary.**—The Historians (1910-11); Plato (1911-12). M., 3:00-5:00. Professor Harry.

Course 7 is open to graduates and to those who have completed the undergraduate courses in Greek.

HISTORY.

Professor Whitcomb, Assistant Professor Cox, Mr. Dilworth.

FOR UNDERGRADUATES AND GRADUATES.

Undergraduate Course 1, Middle Ages-Renaissance; Course 3, **Reformation-Revolution-Napoleon;** Course 13, **Political History of England;** and Course 15, **General Course in American**

GERMAN.

Professor Poll and Assistant Professor Lotspeich.

FOR UNDERGRADUATES AND GRADUATES.

Undergraduate Course 4, **Introduction to German Literature of the Eighteenth Century** is prerequisite to certain advanced courses, as shown below.

5. History of German Literature to the Nineteenth Century, with special study of the Classic Periods of the Twelfth and Eighteenth Centuries. Among other works the following are read in 1910-11: *An Anthology of German Literature*, by Calvin Thomas; the *Nibelungenlied* (translated into modern German by R. Woerner); Lessing's *Nathan;* Schiller's *Wallenstein* and *Braut von Messina*, and Goethe's *Faust*. Lectures in German, collateral reading. M., W., F., 9:30-10:30. Professor Poll.

Course 5 is open to students who have passed in Course 4.

6. German Literature of the Nineteenth Century.—The Romantic School. The Novel. The Drama and Lyrics. Lectures, collateral reading and written reports by the class. Th., 4:00-6:00. Professor Poll.

Course 6 is open to students who have passed in Course 5.

10. German Composition (Advanced Course).—Advanced composition and practice in writing German. S., 9:30-11:30.

Omitted in 1910-11. Professor Poll.

30. Glimpses of German Life and Culture.—Papers and discussions in German. Advanced composition. S., 9:30-11:30. Professor Poll.

PRIMARILY FOR GRADUATES.

12. Interpretation of the Second Part of Faust and Study of the Legend.—Collateral reading and written reports. Th., 4:00-6:00. Professor Poll.

Course 12 is open to students who have passed in Course 5.

Omitted in 1910-11.

11. German Literature from the Reformation to the Classic Period of the Eighteenth Century.—Lectures in German and collateral reading. Th., 4:00-6:00. Professor Poll.

Course 11 is open to students who have passed in Course 5 or 6.

Omitted in 1910-11.

7. Middle High German.—Wright's *Middle High-German Primer*. Bachmann's *Mittelhochdeutsches Lesebuch*. Translation into modern German. W., 4:00-6:00. Assistant Professor Lotspeich.

8. Old High German.—Braune's *Althochdeutsche Grammatik*, and the same author's *Althochdeutsche Lesebuch* are used as text-books. Translation into modern German. During a part of the second semester the Old Saxon phonology and morphology will be studied and selections from the Heliand will be read. M., 4:00-6:00. Assistant Professor Lotspeich.

13. **Gothic**—Braune's *Gotische Grammatik;* reading of selections from Ulfilas; lectures on Germanic philology. M., 4:00-6:00. Assistant Professor Lotspeich.

Omitted in 1910-11.

26. **Old Norse**—Kahle's *Altislaendisches Elementarbuch.* Reading of selections from the Sagas. In the second semester selected poems of the Edda will be read. W., 4:00-6:00. Assistant Professor Lotspeich.

Omitted in 1910-11.

35. **History of German Literature to the Nineteenth Century.**—This will be substantially the same as Course 5, slightly rearranged, however, to meet the needs of teachers. T., 4:00-6:00. Professor Poll.

9. **German Seminary.**—Critical study of Wolfram's *Parzival.* Th., 4:00-6:00. Professor Poll.

Omitted in 1910-11.

GREEK.

Professor Harry.

Many casts of works of antique art have been installed in the Greek room and in the corridors of the University. Students in both undergraduate and graduate courses also have opportunities to study the casts in the Cincinnati Art Museum.

FOR UNDERGRADUATES AND GRADUATES.

13. **Greek Art.**—A course in the grammar and history of Greek art, including architecture. Special attention is given to the spirit and principles of plastic art, to the influence of religion and athletics, to the temples and their decorations, and to the masterpieces of the great Greek sculptors. T., 10:30-11:30. Professor Harry.

The class is limited to twenty-five students.

PRIMARILY FOR GRADUATES.

5. **Rapid Reading in the Historians.**—W., 3:00-4:00. Professor Harry.

6. **Practical Exercises in Greek.**—F., 3:00-5:00. Professor Harry.

7. **Greek Seminary.**—The Historians (1910-11); Plato (1911-12). M., 3:00-5:00. Professor Harry.

Course 7 is open to graduates and to those who have completed the undergraduate courses in Greek.

HISTORY.

Professor Whitcomb. Assistant Professor Cox, Mr. Dilworth.

FOR UNDERGRADUATES AND GRADUATES.

Undergraduate Course 1, Middle Ages-Renaissance; Course 8, Reformation-Revolution-Napoleon; Course 13, Political History of England; and Course 15, General Course in American

History, are prerequisite to certain advanced courses in History, as shown below.

25. **European History Since 1814.**—An advanced course dealing with the problems of European history in the nineteenth century. France since 1814; Germany since 1814; the Kingdom of Italy; the Eastern Question; Colonization. T., Th., 10:30-11:30. Professor Whitcomb.

Open to students who have passed in Course 3.

30. **American Colonial History.**—This course touches upon certain features of the Spanish and French colonial systems, and then considers in detail the English colonial establishments in America, the struggle between the English and French for the control of the continent, and the development of American institutions during the colonial régime. Lectures, with collateral readings and special reports. T., Th., 1:00-2:00. Assistant Professor Cox.

Omitted in 1910-11.

31. **American Revolutionary History.**—The course traces in outline the main features of the Anglo-American and Spanish-American revolutionary movements from 1763 to the announcement of the Monroe Doctrine in 1823. Lectures, with collateral readings and special reports. T., Th., 4:0-5:00. Assistant Professor Cox.

Open to advanced students and teachers.

32. **History of the Middle Period.**—A history of American expansion and internal development from the second war with Great Britain to the close of 1853. T., Th., 1:00-2:00. Assistant Professor Cox.

33. **The Civil War and Reconstruction.**—The course includes a survey of the causes of the Civil War and a review of the main features of the great sectional contest and of the Reconstruction period. Lectures, wih collateral reading and special reports. T., Th., 4:00-5:00. Assistant Professor Cox.

Omitted in 1910-11.

38. **American Territorial Diplomacy.**—The course reviews the claims of various European nations to the American continent, and is followed by a detailed study of the diplomatic and frontier questions involved in the territorial expansion of the United States. M., W., F., 8:30-9:30. Assistant Professor Cox.

Open to those who have had Course 15 or its equivalent.

Omitted in 1910-11.

21. **American Constitutional History.**—The course treats of the development of governmental institutions during the Colonial era, and of the important constitutional questions occurring between the Revolution and the Civil War. M., W., F., 8:30-9:30. Assistant Professor Cox.

Open to those who have had Course 13 or 15.

40. English Constitutional History.—The course traces the development of English political institutions from the Saxon period to the present times. Recommended for students who intend to enter upon the study of law, and for those who wish to specialize in American history. T., Th., 11:30-12:30.

Omitted in 1910-11. Mr. Dilworth.

44a. English History Since 1856.—This course deals with the political, economic, and religious history of England since the close of the Crimean War and with the present day problems. *First semester*, T., Th., 11:30-12:30. Mr. Dilworth.

Course 44a is open to students who have passed in Course 13 or Course 25, or who have obtained the consent of the instructor.

45b. European Law in its Historical Development.—This course includes a survey of the great systems of law which have prevailed in Europe since the disintegration of the Roman Empire. The Germanic Codes, the Canon Law, the Law Merchant, and the attempts at modern codification are treated. Special attention is given to the law of the Middle Ages. While this course may appeal to students who intend to engage in the study and practice of law, it is believed that it will be of interest to the more general student of European civilization. *Second semester*, T., Th., 11:30-12:30. Mr. Dilworth.

Course 45 is open to students who have passed in Course 1 or who have obtained the consent of the instructor.

PRIMARILY FOR GRADUATES.

34. Seminary in European History.—The Period of the Early Revolution, 1789-1791. The working out of a new political and economic system for France. The proceedings of the National Assembly will be read, requiring the ability to read French prose. Exercises in bibliography and method. This course may be elected only after a consultation. Two hours a week; to be arranged. Professor Whitcomb.

39. Seminary in American History.—Politics and Political Leaders of the Ohio Valley. The course is devoted to an intensive study, from the original sources, of selected national political issues affecting this section, and the social and economic causes underlying them. Seniors may be admitted. Two hours per week; S., 10:30-12:30. Assistant Professor Cox.

41. Seminary in Medieval History.—The work of the class will center about the reading of a chronicle. Reports, based on source material. Ability to read either French or German required. Period to be arranged. Mr. Dilworth.

Course 41 is open to properly qualified seniors.

8a. History of the Development of Spanish and Spanish-American Institutions.—The history of Spanish institutions from the fifth century to the discovery of America. Lectures, with reports by the students based upon available sources. *First semester.* Two hours a week; to be arranged.

Assistant Professor Allen, assisted by
Assistant Professors Umphrey and Cox.

Open by special permission to seniors and juniors who have had Course 1.

8b. History of the Development of Spanish and Spanish-American Institutions, Continued.—An outline of the discovery and exploration of Spanish America, with an account of the development of typical institutions in the New World. Lectures, with reports based on collateral readings. A reading knowledge of Spanish is desirable. *Second semester.* Two hours a week; to be arranged. Assistant Professor Cox, assisted by Assistant Professors Allen and Umphrey.

Open to those who have had Course 1 or Course 15.

LATIN.

***Professor Burnam and Assistant Professor Allen.**

The work, while not neglecting the philological side of the subject, will emphasize more and more, as the student progresses, its historical and humanitarian aspect. The University Library has the beginning of a fair special collection, chiefly devoted to the authors most read in the course. After the second year the seminary method will be used as far as possible. The students in Palaeography will find some MSS. and a considerable collection of facsimiles and treatises at their disposal.

PRIMARILY FOR GRADUATES.

Hours in all cases to be arranged.

9. Latin and Romance Palaeography.—The history of the Latin alphabet in Western Europe, from A. D. 1 to the close of the fifteenth century. Students will have abundant practice in reading facsimiles. Three hours. Professor Burnam.

Course 9 must be preceded by at least four years of undergraduate work, and requires a reading knowledge of French and German.

Omitted in 1910-11.

10. Latin Seminary.—Cicero. Lectures; reports and papers on special topics. Attention will be directed mainly to the orations and to the political and legal institutions of the time. Three hours. Assistant Professor Allen.

24. Medieval Latin.—The interpretation of selected Latin in texts dealing with the history and institutions of the Middle Ages. *Second semester.* Two hours.
Assistant Professor Allen.

12. Graduate Study.—Credit according to work done.
Assistant Professor Allen.

8a. History of the Development of Spanish and Spanish-American Institutions.—The history of Spanish institutions from the fifth century to the discovery of America. Lectures and reports based upon an examination of the Latin source material. This course is intended to serve as preparation for original

*Absent on leave in Europe, 1910-1911.

investigation of Latin medieval texts. *First semester.* Two hours a week. Assistant Professor Allen, assisted by Assistant Professors Cox and Umphrey.

Open to seniors and juniors by special permission.

8b. Course 8a will be continued during the second semester as Course 8b in the department of History (see page 43).

*MATHEMATICS.

Professor Hancock, Professor Slocum, Assistant Professor Moore, Mr. Kindle.

FOR UNDERGRADUATES AND GRADUATES.

Undergraduate Course 5, **Calculus, Differential and Integral,** is prerequisite to certain advanced courses, as shown below.

6a. Advanced Analytical Geometry of Two Dimensions.—C. Smith, *Conic Sections.* Lectures. M., W., F., 10:30-11:30, *first semester.* Mr. Kindle.

Course 6a is open to graduate students and to those who have passed in Course 5.

7b. Analytical Geometry of Three Dimensions.—The plane, straight line and quadric surfaces; theory of surfaces and curves. C. Smith, *Solid Geometry.* Lectures, M., W., F., 10:30-11:30, *second semester.* Mr. Kindle.

Course 7b is open to graduate students and to those who have passed in Course 5.

15. Theory of Equations, Including Determinants.—Burnside and Panton, *Theory of Equations.* Lectures. M., W., F., 10:30-11:30. Assistant Professor Moore.

Omitted in 1910-11.

8a. Advanced Integral Calculus.—Byerly, *Integral Calculus.* Lectures. M., W., F., 9:30-10:30, *first semester.* Professor Hancock

9b. Differential Equations.—Forsyth, *Differential Equations.* Lectures. M., W., F., 9:30-10:30, *second semester.* Professor Hancock.

PRIMARILY FOR GRADUATES.

31. Theory of Numbers.—Algebraic Numbers.—Part I. Dedekind's theory. T., 4:00-6:00; S., 10:30-12:30. Professor Hancock.

30. Theory of Numbers — Natural Numbers. — Lectures founded on the Berlin lectures of Kronecker, Frobenius, and Dirichlet's Zahlentheorie. T., 4:00-6:00; S., 10:30-12:30. Professor Hancock.

Omitted in 1910-11.

*See courses in Applied Mathematics, College of Engineering.

10a. Theory of Errors and Method of Least Squares.—Wright and Hayford, *Adjustment of Observations.* The general theory of the adjustments of observations, with applications to triangulation and the derivation of empirical formulas from experimental data. M., 4:00-5:00; Th., 4:00-6:00, *first semester.*
Professor Slocum.

11b. Fourier's Series and Spherical Harmonics.—Byerly, *Fourier's Series and Spherical Harmonics.* This course is intended as an introduction to mathematical physics. After a preliminary study of certain trigonometric series, Fourier's theorem for the development of a function into a trigonometric series is derived, and the limitations of its validity investigated. This is followed by the study of Lagrange's, Laplace's, and Lame's functions, with applications to problems in heat, electricity, potential, elasticity, etc., M., 4:00-5:00; Th., 4:00-6:00, *second semester.*
Professor Slocum.

28. Theory of Functions.—Lectures on the theory of functions of real variables. M., W., F., 9:30-10.30.
Assistant Professor Moore.

29. Theory of Functions.—Lectures on the theory of functions of a complex variable. Hours to be arranged.
Assistant Professor Moore.

16a. Theoretical Mechanics.—A modern treatment of analytical mechanics intended especially for advanced students in engineering and physics. The course is given by lectures, supplemented by references to standard texts. *First semester,* M., 4:00-5:00; Th., 4:00-6:00. Professor Slocum.

Given in 1910-11; omitted in 1911-12.

16b. The Mathematical Theory of Elasticity.—A course in the mechanics of elastic bodies, supplementary to Course 16a. The course is given mainly by lectures, supplemented by references to the works of Williamson, Webster, and A. E. H. Love. *Second semester,* M., 4:00-5:00; Th., 4:00-6:00.
Professor Slocum.

Given in 1910-11; omitted in 1911-12.

26a. The History and Teaching of Mathematics.—A course in the pedagogy of mathematics, based chiefly on the historical development of the subject. Modern pedagogical theories are studied in their relation to mathematics and used as a basis for the discussion of laboratory and other special methods of instruction. *First semester,* Th., 4:00-6:00; S., 9:30-10:30.
Professor Slocum.

Omitted in 1910-11.

24. Elliptic Integrals and Elliptic Functions.—The theories of Legendre, Abel, Jacobi, and of Riemann, Hermite, Weierstrass. Lectures founded on the Berlin lectures of Fuchs, Schwarz, and Weierstrass. T., 4:00-6:00; S., 10:30-12:30.
Professor Hancock.

Omitted in 1910-11.

25. Application of Elliptic Functions.—The general theory of Course 24 specialized and illustrated by problems in Mechanics and in the Theory of Numbers, and through geometrical investigations, including the analytical representation of curves and

surfaces. The solution of certain algebraical and differential equations. Construction of tables of elliptic integrals. The general theory of transformation. Lectures. W., 4:00-6:00; S., 11:30-12:30. Professor Hancock.
Omitted in 1910-11.

20. Theory of Maxima and Minima Involving Several Variables. The Calculus of Variations.—Lectures. W., 4:00-6:00; S., 11:30-12:30. Professor Hancock.
Omitted in 1910-11.

18a. Theory of Minimal Surfaces.—The developments of Lie, Darboux, Schwarz, and Weierstrass compared with those of earlier writers. Lectures. T., Th., S., 8:30-9:30, *first semester*. Professor Hancock.
Omitted in 1910-11.

19b. The Extended Realms of Rationality.—Lectures. T., Th., S., 8:30-9:30, *second semester*. Professor Hancock.
Omitted in 1910-11.

FOR GRADUATES ONLY.

30. Seminary.—Theoretical and experimental research in some special topic of the mechanics of rigid, elastic, fluid, or gaseous bodies. Results to be summarized in a form suitable for publication. Credit according to work done. Hours by special arrangement. Professor Slocum.

PHILOSOPHY.

Professor Tawney.

FOR UNDERGRADUATES AND GRADUATES.

Undergraduate courses 1a, **Logic**, and 2b, **Introduction to Philosophy**, are prerequisite to certain advanced courses in Philosophy, as shown below.

3a. Ancient and Medieval Philosophy.—An historical and critical account of the typical world-views of ancient Greece and Rome, together with a brief study of the course of philosophical and scientific thought in the Middle Ages. This course is of interest to undergraduates chiefly because the philosophical speculations of youth and of the untrained masses of people are found in this period of history. *First semester*, M., W., F., 9:30-10:30. Professor Tawney.

Course 3a is open to students who have completed at least one year of University work.

4b. Modern Philosophy.—An historical account of the transition from medieval to modern philosophy; the beginnings of scientific freedom, followed by a study of the intellectualism and empiricism of the seventeenth century; the critical philosophy of Kant; transcendentalism in Germany, England, and America; agnosticism and positivism; the evolution philosophy; absolute idealism, realism, and pragmatism. *Second semester*, M., W., F., 9:30-10:30. Professor Tawney.

Course 4b is open to students who have completed at least one year of University work. Students are advised to take either 2b or 3a before entering 4b.

5a. Ethics.—This is an introductory study of the moral ideas and institutions of man with some reference to the relation between morality on the one side, and political and ecclesiastical sanctions on the other. It begins with the origin and growth of morality in the race and the individual, and includes some account of the moral problem of our present society. *First semester*, M., W., F., 11:30-12:30. Professor Tawney.

Course 5a is open to students who have completed at least two years of University work.

6b. Political Philosophy.—A study of the principles of political organization, including the origin of the state, the relation of morality to legislative enactment, the concepts of natural law, natural right, the general will, and the rule of majorities. *Second semester*, M., W., F., 11:30-12:30. Professor Tawney.

Course 6b is open to students who have completed at least two years of University work.

8b. Principles of Science and the Theory of Scientific Method. This course begins with a rapid review of Course 1a and includes an outline of the method of science in general and special study of the methods of special groups of sciences, such as the mathematics, biology, physics, psychology. Some reference will be made to relations between the scientific method and the method of judgment in other than scientific fields. *Second semester;* three hours, to be arranged. Professor Tawney.

Prerequisite: Course 1a.

PRIMARILY FOR GRADUATES.

7. Types of Epistemology and Metaphysics.—A critical study of idealism, realism, agnosticism, and pragmatism as exemplified in the writings of modern, chiefly nineteenth century writers: T. H. Green, F. H. Bradley, Josiah Royce, William James, John Dewey, Herbert Spencer, Auguste Comte, Lotze, G. E. Moore, Woodbridge, and others. Two hours, throughout the year. Th., 11:30-1:30. Professor Tawney.

Omitted in 1910-11.

9. Ethical and Epistemological Problems.—A study of the problems of ethics and epistemology from the standpoint of evolution. Two hours, to be arranged. Professor Tawney.

Prerequisite: Courses 1a, 3a, and 4b, or their equivalents.

10. English Empiricism in the Eighteenth Century.—A study of the most important of the philosophical works of Hobbes, Locke, Berkeley, and Hume, with especial reference to their influence on nineteenth century thought. Two hours, to be arranged. Professor Tawney.

Prerequisite: Courses 3a and 4b, or their equivalents.

12a. Philosophical Method.—A study of the logic of certain typical philosophical tendencies and of the group of philosophical disciplines. The theme of the course might be called the methodology of reflection. *First semester*, W., 8:30-9:30, 10:30-11:30. Professor Tawney.

Omitted in 1910-11.

PHYSICS.

Professor More, Associate Professor Ives, Assistant Professor Allen, Mr. Evens.

The Department of Physics occupies the first floor and the the larger part of the basement of Cunningham Hall. The former contains lecture and recitation rooms, offices, library and general laboratories. In the basement are the shops and a number of small rooms fitted for advanced work.

The department is supplied with modern apparatus for illustrating lectures, and for both general and advanced laboratory work. The stock is also being largely increased. A skilled mechanician is employed in making and repairing apparatus. Every facility will be offered students requiring specially constructed apparatus.

The library of the department contains the best works in Physics, and the important journals are on file.

FOR UNDERGRADUATES AND GRADUATES.

3a. Theoretical Mechanics.—A course of lectures on the mathematical laws of mechanics. Professor More.
Omitted in 1910-11.

18b. Theory of Electricity and Magnetism.—A course of lectures on the mathematical laws of electricity and magnetism. Professor More.
Omitted in 1910-11.

19a. Theory of Heat.—A course of lectures on the mathematical laws of heat. *First semester.* Three times weekly. Professor More.

15b. Theory of Light.—A course of lectures on the mathematical laws of light. *Second semester.* Three times weekly. Professor More.

The above courses may be elected for a minor in Physics, the following courses for a major, in graduate work.

8. Experimental Physics.—The exact determination of some of the standard and classical experiments. Three times weekly. Professor More.

10. Seminary.—The reading and discussion of papers in physical journals. T., 4:00-5:00. Professor More.

16. Physical Manipulations.—A series of exercises in scientific shop-work. Shop-work; soldering and metal-working, screw-cutting and elementary lathe-work. Glass-work and physical processes; glass-blowing, cutting, grinding, polishing, silvering; fiber suspensions and preparations useful in the laboratory. S., 8:30-1:00. Mr. Evens.
Omitted in 1910-11.

20b. Ionization and Radio-activity.—A course of lectures and experimental demonstrations on the discharge of electricity through gases and the properties of the radio-active substances. *Second semester*, twice weekly. Assistant Professor Allen.

17a. Electric Waves and Wireless Telegraphy.—A course of lectures on the radiation emitted by electric and magnetic oscillators, with applications to wireless telegraphy and the theory of light. *First semester*. Twice weekly.
Associate Professor Ives.

FOR GRADUATES ONLY.

7. Lectures on Theoretical Physics.—This course is designed to include three years' work. In 1910-11 the lectures discuss the theory of heat and generalized coordinates; 1911-12, light; 1912-13, electricity and magnetism. Twice weekly.
Professor More.

25a. Theoretical Mechanics.—See under Mathematics 16a.
Professor Slocum.

9. Research.—Those electing this course are supplied with all the apparatus needed, and the assistance of the Mechanician is at their disposal. Daily.
Professor More, Associate Professor Ives,
and Assistant Professor Allen.

POLITICAL AND SOCIAL SCIENCE.

Professor Brooks.

FOR UNDERGRADUATES AND GRADUATES

4b. Political Parties and Party Problems.—A study of the organization, methods, and aims of existing political parties in the United States. The following subjects will be discussed: theory of the party system, primary and convention system, permanent party organization, the financing of parties, elements of cohesion in parties, and the principal recent aims pursued by political parties. *Second semester*, T., Th., 2:00-3:00.
Professor Brooks.

7a. Modern Sociology.—Lectures and assigned readings on the social theories of Comte, Mill, Spencer, Schaeffle, Gumplowicz, Tarde, Mackenzie, Ward, Giddings, and others. Particular attention is given to the consequences of the theories of these writers in the field of practical social reform. *First semester*, T., Th., 2:00-3:00. Professor Brooks.

11a. Municipal Government.—A comparative study of municipal government in the principal countries of Europe, England, and the United States, with particular reference to the reforms advocated in the latter country. Special financial and social problems of city life, such as municipal ownership, taxation of unearned increment, the drift of population to urban centers, the housing problem, sanitation, provision of facilities for recreation, the child problem in cities, etc., are also discussed. *First semester*, T., Th., 1:00-2:00. Professor Brooks.

12b. **The Government of Cincinnati.**—A somewhat detailed study of the organization and functions of the government of Cincinnati. Particular attention is given to the special municipal problems involved in the contemporary development of the city, and to the relations existing between its government and the government of the state of Ohio and Hamilton County. *Second semester*, T., Th., 1:00-2:00. Professor Brooks.

15. **Modern Philanthropy.**—A study of the problems of charity and penology. Treatment of the pauper, feeble-minded, insane, and of dependent children. Reform suggestions regarding the best methods of dealing with these classes. Problems of crime. The criminal, jails, prisons, reformatories, and preventive agencies. Proposed reforms. Readings, visits to charitable and penal institutions or other field work, reports. M., W., 2:00-3:00.
Professor Brooks.

17. **Selected Readings and Field Work.**—Designed to afford opportunity for the more thorough study of the subjects considered in the preceding courses, but may be elected separately by students who have already completed one full year's work either in the Department of Political and Social Science or in the Department of Economics. Special attention will be given to bibliography, statistical presentation, and the preparation of reports in standard form. F., 2:00-3:00. Professor Brooks.

Course 17 is recommended for students who have elected Courses 4a, 5* (second semester), 11a, 12b, and 15. Credit, one or two hours.

PRIMARILY FOR GRADUATES.

3. **Seminary in the History of Political Ideas.**—A study of the development of political thought. The first part of the course is devoted to a series of lectures on Oriental, Greek, Roman, and mediaeval political ideas, students being assigned collateral reading in Aristotle, Plato, Polybius, St. Augustine, Thomas Aquinas, Dante, and others. The political philosophers of later date are studied principally from their writings, particular attention being given to Machiavelli, Bodin, Hobbes, Locke, Montesquieu, Rousseau, Burke, Bentham, Mill, Maine, and Seeley. The relationship between the systems of the various philosophers and the history of their times receive attention. M., 3:15-5:15.
Professor Brooks.

PSYCHOLOGY.

Professor Breese and Mr. Lurie.

The department occupies two rooms on the second floor of McMicken Hall. One of these rooms is devoted to the laboratory, which is equipped with the apparatus necessary for carrying out the typical experiments in experimental psychology. The aim of the courses in this department is to give a comprehensive account of the facts of mental life and the methods of investigating them, and to point out the stages of mental development in the race and in the individual. For teachers and those intending to teach there are offered special courses dealing particularly with mental development and the application of psychology to education.

* Undergraduate course in Elementary Sociology.

FOR UNDERGRADUATES AND GRADUATES.

2. **Experimental Psychology.**—Laboratory course. M., W., F., 1:00-3:30. Professor Breese and Mr. Lurie.

6a. **Educational Psychology.**—The applications of psychology to education. *First semester.* M., W., F., 3:00-4:00. Professor Breese.

PRIMARILY FOR GRADUATES.

3. **Research.**—Special investigation in the psychological laboratory. Hours to be arranged. Professor Breese.

4. **Seminar.**—A critical study of the most important problems in psychology. Reports and discussions. Hours to be arranged. Professor Breese.

ROMANCE LANGUAGES.

Professor Liberma, Assistant Professor Umphrey.

FOR UNDERGRADUATES AND GRADUATES.

Undergraduate Course 11, **French Literature in the Nineteenth Century,** Course 6, **Elementary Spanish,** and Course 7, **Elementary Italian,** are prerequisite to certain advanced courses in Romance Languages, as shown below.

4. **French Literature in the Seventeenth Century.**—A study of the principal authors, supplemented by lectures and collateral reading on the life and literature of the time. Warren, *French Prose of the Seventeenth Century;* Corneille, *Le Cid, Polyeucte;* Racine, *Andromaque, Phèdre;* Molière, *Précieuses ridicules, Le Misanthrope;* Boileau, *L'Art poétique;* La Fontaine, *Fables,* T., Th., 9:30-10:30. Professor Liberma.

Course 4 open to students who have passed in Course 11.

8. **Spanish Literature in the Sixteenth and Seventeenth Centuries.**—Cervantes, *Don Quijote;* selected plays of Lope de Vega and Calderón. History of Spanish Literature from the age of Juan II. to the Bourbons. T., Th., 10:30-11:30. Assistant Professor Umphrey.

Course 8 is open to students who have passed in Course 6.

29. **Italian Literature in the Eighteenth and Nineteenth Centuries.**—Lectures. Selections from Goldoni, Alfieri, Parini, Manzoni, Carducci, and others. T., Th., 9:30-10:30. Assistant Professor Umphrey.

Course 29 is open to students who have taken Course 7 or its equivalent.

10. **Historical French Grammar.**—A study of the successive changes the French language has undergone in pronunciation, inflection and syntax. Handbook; Brunot, *Précis historique de la Grammaire française.* T., Th., 8:30-9:30. Professor Liberma.

Course 10 is open to students who have passed in Course 4.

13. **French Literature in the Eighteenth Century.**—Montesquieu, Voltaire, Diderot, J. J. Rousseau. Reading of selected works, lectures, reports. This course is given wholly in French. T., Th., 9:30-10:30. Professor Liberma.

Course 13 is open to students who have completed Course 4.

Omitted in 1910-11.

22. **Spanish Literature in the Nineteenth Century.**—Selected texts and collateral reading; composition; lectures. The following representative works are read: Caballero, *La familia de Alvareda;* Valera, *El Commendador Mendoza;* Alarcón, *El Sombrero de tres picos;* Galdos, *Doña Perfecta;* Tamayo y Baus, *Un drama nuevo;* Zorilla, *Traidor, inconfieso, y martir;* Nuñez de Arce, *El Haz de lena;* Echegaray, *O locura ó santidad;* Espronceda, Béquer, Campoamor, *Poesías escogidas.* T., Th., 10:30-11:30. Assistant Professor Umphrey.

Course 22 is open to students who have passed in Course 6.

Omitted in 1910-11.

15. **Dante.**—The *Vita Nuova* (Barbi edition), the *Inferno* (Grandgent edition), and the *Purgatorio.* Lectures, collateral reading, and reports. T., Th., 10:30-11:30.
Professor Liberma.

Course 15 is open to students who have passed in Course 7.

Omitted in 1910-11.

23. **French Literature of the Renaissance.**—A study of the more important writers of the period. Lectures and reports. T., Th., 8:30-9:30. Professor Liberma.

Course 23 is open to students who have had Course 4.

Omitted in 1910-11.

24. **Special Studies in Modern French Literature.**—The life and representative writings of Voltaire. T., 4:00-6:00.
Assistant Professor Umphrey.

Course 24 is open to students who have passed in Course 4.

25a. **Phonetics.**—A general introduction to linguistic science, intended to furnish a basis for the study of philology and for the practical teaching of modern languages. A systematic description of the organs of speech, followed by an examination of the most important sounds in three or four modern languages, especially English, French, and German. A phonetic alphabet will be used, and students will be given practice in phonetic transcription. Half course, *first semester.* T., 2:00-4:00.
Assistant Professor Umphrey.

PRIMARILY FOR GRADUATES.

12. **Old French.**—Old French phonology and inflections; versification. Lectures, text interpretation and collateral reading. F., 2:00-4:00. Professor Liberma.

Course 12 is open to students who have passed in Course 4.

14. Early Spanish.—Phonology and inflections. *El Poema del Cid* and other early monuments of Spanish. History of Spanish literature to Juan II. Two credits. Hours to be arranged.
Assistant Professor Umphrey.

Course 14 is open to students who have passed in Course 8 or 22.

Omitted in 1910-11.

16. History of Old French Literature, from the Origins to the end of the Fifteenth Century. Lectures and reports. F., 2:00-4:00. Professor Liberma.

Course 16 is open to students who have passed in Course 4.

Omitted in 1910-11.

19b. Provencal Language and Literature.—An examination of the phonetic laws underlying the transformation of Vulgar Latin into Provençal; reading of Provençal texts, especially the poetry of the Troubadours. Text-books: Carl Appel, *Provenzalische Chrestomatie* (2d ed., Leipzig, 1902); Grandgent, *An Outline of the Phonology and Morphology of Old Provençal. Second semester*, T., 2:00-4:00. Assistant Professor Umphrey.

Omitted in 1910-11.

17. Seminary.—Studies in the technique and the sources of the French drama of the seventeenth century. Two credits. S., 10:30-12:30. Professor Liberma.

40a. History and Development of Spanish and Spanish-American Institutions.—The history of Spanish institutions from the fifth century to the discovery of America. Lectures. Reports by students upon original Spanish sources. This course is intended to prepare students for original investigation of medieval Spanish documents and other historical source material. *First semester.* Two hours a week; to be arranged.
Assistant Professor Allen, assisted by
Assistant Professors Cox and Umphrey.

40b. Course 40b will be continued during the second semester as Course 8b in the department of History (see page 43).

18. Latin and Romance Palaeography.—See Latin 9.

University of Cincinnati Record

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1910-1911

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THE UNIVERSITY OF CINCINNATI

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(Mechanical, Electrical, Civil, and Chemical Engineering.)

V.

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(The Cincinnati Law School.)

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CINCINNATI, OHIO.

OFFICERS OF ADMINISTRATION OF THE COLLEGE FOR TEACHERS.

The College for Teachers is organized under the joint management of the Board of Directors of the University and the Board of Education of the City of Cincinnati.

COMMITTEE IN CHARGE.

CHARLES WILLIAM DABNEY, Ph. D., LL. D.,
President of the University.

ARCH. I. CARSON, M. D.,
Of the Board of Directors of the University.

FRANK BENJAMIN DYER, LL. D., Lit. D.,
Superintendent of Cincinnati Schools.

EMIL POLLAK,
Member of the Board of Education.

President of the University:
CHARLES WILLIAM DABNEY, Ph. D., LL. D.
Room No. 10, McMicken Hall.

Dean of the College for Teachers:
WILLIAM P. BURRIS, A. M. Room No. 2, McMicken Hall.

Dean of Women:
EMILIE WATTS McVEA, A. M. Room No. 12, McMicken Hall.

Director of the Observatory:
JERMAIN G. PORTER, Ph. D. The Observatory, Mt. Lookout.

Director of School Affiliation:
FRANK W. BALLOU, A. M. Room No. 2, McMicken Hall.

Director of Music:
EDWIN W. GLOVER. McMicken Hall.

Director of Physical Education:
ALFRED BRODBECK. McMicken Hall.

Secretary of the University:
DANIEL LAURENCE, B. S. Room No. 6, McMicken Hall.

Librarian of the University:
CHARLES ALBERT READ, A. B.
Van Wormer Library Building.

Registrar:
LELIA AMANDA GARVIN, B. L. Room No. 7, McMicken Hall.

COLLEGE FOR TEACHERS.

CALENDAR 1910-1911.

1910.

Sept. 19, Monday—Sept. 24, Saturday:
Entrance examinations.

September 22, Thursday:
First day of registration.

September 24, Saturday:
Last day of registration.

September 26, Monday:
First semester begins.

Nov. 24, Thursday—Nov. 26, Saturday:
Thanksgiving recess.

December 22, Thursday, 8:30 a. m.:
Christmas vacation begins.

1911.

January 2, Monday:
Work resumed.

Jan. 23, Monday—Jan. 28, Saturday:
First semester examinations.
Entrance examinations.

January 28, Saturday:
First semester ends.

January 30, Monday:
Registration day for second semester.

January 31, Tuesday:
Second semester begins.

GENERAL INFORMATION.

FOUNDATION.

On his death, in 1858, Charles McMicken gave to the city of Cincinnati by will almost the whole of his estate, valued at about $1,000,000, for the purpose of establishing and maintaining "two colleges for the education of white boys and girls."

He had "long cherished the desire to found an institution where white boys and girls might be taught not only a knowledge of their duties to their Creator and their fellow men, but also receive the benefit of a sound, thorough and practical English education, and such as might fit them for the active duties of life, as well as instruction in the higher branches of knowledge, except denominational theology, to the extent that the same are now or may hereafter be taught in any of the secular colleges or universities of the highest grade in the country."

Nearly half of the property devised by Mr. McMicken was situated in the state of Louisiana. This was entirely lost, in 1860, by a decision of the Supreme Court of that state, annulling that part of the devise. The court refused to recognize the validity of bequests of real estate to institutions controlled by non-resident trustees upon perpetual trusts. The remainder of the property, lying in Cincinnati and its vicinity, did not yield a sufficient income to warrant the establishment of the proposed colleges. For ten years, therefore, the revenue derived from the estate was applied to its improvement.

In 1869 the trustees provided for a School of Design, which they maintained, with aid from Joseph Longworth, until 1884, when they transferred it to the Cincinnati Museum Association. Meanwhile an attempt was made to unite the various educational trusts in Cincinnati. To this end, in 1870, the General Assembly of Ohio passed an act "to aid and promote education," under which, almost a year later, the University of Cincinnati was established. Bonds were soon issued by the city to provide funds for the erection of a suitable building, which was ready for use in the fall of 1875. But students were received in 1873, and instruction was given temporarily by the teachers of Woodward High School. In 1874 the Academic Department, now known as the McMicken College of Liberal Arts, was organized by the appointment of three professors and two instructors, who met classes during that year in a school building on Franklin Street.

The effort to unite other trust funds with those given by Charles McMicken having failed, the income remained long inadequate to the needs of such an institution as he had intended to found. At length the city undertook to support the University

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in part by public taxation, the tax for this purpose being limited at first to three-tenths of one mill. In the course of time additional funds for the maintenance of the institution were provided by individual citizens, the most important being the bequest of property, valued at $130,000, by Matthew Thoms in 1890, the gift of $100,000 by David Sinton in 1899, and the recent bequest of Mary P. and Eliza O. Ropes, of Salem, Massachusetts, amounting to $100,000, for the endowment of a chair of Comparative Literature, as a memorial to their father, Nathaniel Ropes, for many years a citizen of Cincinnati.

New departments were also added. In 1872 the Cincinnati Astronomical Society (founded in 1842) transferred its property on Mt. Adams to the city, which agreed, as a condition of the gift, to sustain, in connection with the University, on a new site provided by John Kilgour, an Observatory,* to be built with funds given by him. In 1896 the Medical College of Ohio (founded in 1819) became the College of Medicine of the University, though still retaining its original title conjointly with its new one. In 1908 an invitation was extended to the Miami Medical College to become a department of the University. In accordance with this invitation the Miami Medical College and the Medical College of Ohio (the College of Medicine of the University) have recently been united into a single medical department, known as "The Ohio-Miami Medical College of the University of Cincinnati." In 1896 a Law Department was established, and six professors of law were appointed, who gave instruction at first in rooms on Fourth Street. But, in 1897, by a contract with the Law School of the Cincinnati College (founded in 1833), a union was effected. The College of Law of the University was to be known as the Cincinnati Law School, and the degree of Bachelor of Laws was to be conferred by the concurrent action of the Board of Directors of the University and the Trustees of the Cincinnati College.

Out of a professorship of Civil Engineering in the College of Liberal Arts has developed the College of Engineering. It was organized under that name in 1900, and became a distinct department in 1904.

Since its organization, in 1887, the Clinical and Pathological School of the Cincinnati Hospital has been affiliated with the University, being designated as the Medical Department, until 1896, and afterwards as the Department of Clinical Medicine.

The College for Teachers was organized in 1905, in cooperation with the Board of Education of the City of Cincinnati. In 1906 the Graduate School was separated from the McMicken College of Liberal Arts and a distinct organization with a dean at its head

*For this purpose the city levies annually a special tax of one-twentieth of one mill.

effected. In the same year the General Assembly of Ohio authorized the levying of an increased municipal tax for the University —five-tenths of a mill, instead of three-tenths as before.

BUILDINGS AND SITE.

From 1875 to 1895 the Academic Department occupied the building erected on the grounds of the McMicken homestead, as required by the will of the founder. This site proving altogether unsatisfactory, application was made to the courts for permission to remove to a more suitable location in Burnet Woods Park. The desired permission having been granted by the court of last resort in March, 1893, steps were immediately taken for the construction of a main building, called McMicken Hall, which was completed in two years. This building stands on high ground at the southern end of the park, forty-three acres having been set apart as a site for the University. During 1895-96 the north wing, known as Hanna Hall, was built for the departments of Chemistry and Engineering, with funds amounting to about $70,000, provided by Henry Hanna. The south wing, called Cunningham Hall, was built in 1898-99 by Briggs S. Cunningham, at a cost of $60,000. This wing is occupied by the departments of Physics and Biology. The Van Wormer Library, costing about $60,000, the gift of Asa Van Wormer, was built during 1898-1900. The Technical School building, erected in 1901, has been completely remodeled as the Engineering Annex. The Observatory, built in 1873 with $10,000 given by John Kilgour, stands on Mt. Lookout, at a distance of several miles from the other University buildings. A smaller structure, the O. M. Mitchel Building, was added in 1904 to house the old telescope. Since 1896 the building on the McMicken homestead site has been used by the College of Medicine. A Dispensary, erected in that year, is situated on the lower part of the grounds. The College of Law, on Ninth Street, occupies a new building, which was completed in 1902 at a cost of $65.000. In August, 1909, the Council of the City of Cincinnati authorized the issue of bonds in the amount of $550,000 for the erection of the following additional buildings in Burnet Woods, and their equipment: an Engineering College building, a heat, light and power plant, and a gymnasium building; and steps are now being taken toward their immediate construction.

BENEFACTORS OF THE UNIVERSITY.

Besides those whose names have already been mentioned, the following persons have contributed to the endowment or to the equipment of the University: William A. Procter, Rev. Samuel J. Browne, William J. Odell, Julius Dexter, Frank J. Jones, Judge Moses F. Wilson, Eugene F. Bliss, Dr. James T. Whittaker, Mrs.

William E. Merrill, Theodore A. Bruehl, Andrew Hickenlooper, Christian Moerlein, Laura Seasongood, Lewis Seasongood, S. Lilienthal, Mrs. Nannie Fechheimer, A. G. Wetherby, Charles F. Windisch, C. T. Webber, Rev. P. Robertson, the Lane & Bodley Company, James E. Mooney, John Kilgour, Charles Kilgour, C. H. Krippendorf, Julius Fleischmann, Lucien Wulsin, Samuel Pogue, Professor Edward Miles Brown, Dr. Nathaniel Pendleton Dandridge, Mrs. Howard Breen, Mr. Robert Hochstetter, the alumni of the University, and others.

ENDOWMENT FUND ASSOCIATION.

The Endowment Fund Association of the University of Cincinnati was incorporated on April 21, 1905, by a number of prominent citizens of the municipality. The purpose of the corporation, as stated in its Code of Regulations, is "to secure property, including money, or the income from the same, for the use of the University of Cincinnati, and for that purpose to solicit, collect, accept, hold, manage, invest, or pay over such property, money, or income, whether such property, money, or income arises by way of gift, devise, or purchase, for the benefit of said University." Its affairs are managed by a Board of Trustees consisting of nine members. The officers of the Endowment Fund Association are:

Rufus B. Smith, President.
Jacob G. Schmidlapp, Vice-President.
Charles F. Windisch, Treasurer.
Howard C. Hollister, Secretary.

BENEFACTIONS.

For the guidance of those who may wish, during life or by bequest, to make benefactions to the University, the following information is given:

Form of Bequest to University of Cincinnati:—

I bequeath and devise to the City of Cincinnati as Trustee for the University of Cincinnati, to hold in trust forever for said University, the following property:.....

Form of Bequest to the Endowment Fund Association:—

I bequeath and devise to the Endowment Fund Association of the University of Cincinnati, for the use of the University of Cincinnati, the following property:.....

The sum of one hundred and fifty thousand dollars would erect a section of a Natural History Museum.

The sum of one hundred thousand dollars is the amount necessary to found a full professorship in any one of the departments. The donor has the privilege of naming the professorship.

Fifty thousand dollars would be required for a dormitory, and the contributor of such a sum would be privileged to name the

building. There is nothing which the University needs more than a dormitory system.

Twenty thousand dollars endows an instructorship in a department. The donor has the right to name it.

Ten thousand dollars is the principal required to establish a fellowship in any one of the departments; the income being paid to the fellow, who devotes his time to original research combined with a little teaching.

Three thousand dollars endows a free scholarship, the income from this sum remitting all fees and giving the donor the right during life to nominate to the scholarship, subject to the rules of the University.

The President of the University would be glad to give full information upon any questions relating to foundations to any person or persons who may desire more detailed knowledge.

THE UNIVERSITY LIBRARY.

The Van Wormer Library Building is of stone, fire-proof throughout, and is built in accordance with the most approved modern plans of library construction. The rooms have been furnished by the University with heavy tables and desks of quartered oak.

The University Library, in this building, contains about 55,000 volumes and 8,800 pamphlets. In the Reference Room about 2,000 volumes are arranged on open shelves, to which the students have free access. The Periodical Room contains the current numbers of 300 periodicals. The Library is provided with a card catalogue of its own books, and also with card catalogues of the books in the Public Library of Cincinnati and in the Library of the Historical and Philosophical Society of Ohio. It is open every week day from 8 a. m. to 5 p. m.

The Library contains some valuable special collections:

The Robert Clarke Library, comprising 6,761 volumes, was given by William A. Procter. This collection is especially rich in Americana, and contains some rare first editions.

The Enoch T. Carson Shakespeare Library, 1,420 volumes, was also given by William A. Procter.

The Bruehl Library, of about 2,000 volumes, contains many rare and valuable works on the history, archæology, and ethnology of Mexico and Central America. This collection was made by Dr. Gustav Bruehl, and presented to the Library by Mr. Theodore A. Bruehl.

The Wilson Library, consisting mainly of works of literature and criticism, in English, French, and Italian, 810 volumes, was given by Judge Moses F. Wilson.

The Merrill Library of engineering works, 876 volumes, 478 pamphlets, and 185 maps, charts and photo-lithographs, was given by Mrs. William E. Merrill.

The Whittaker Medical Library, the bequest of Dr. James T. Whittaker to the Medical College of Ohio, comprises 1,547 volumes and 538 pamphlets.

The Thoms Library, miscellaneous works, was part of the bequest of the late Matthew Thoms.

The Laura Seasongood Alcove contains books purchased annually from the proceeds of an endowment provided in 1894 by the will of the late Laura Seasongood.

The Brown Philological Library, containing the English philological library of the late Professor Edward Miles Brown and presented to the University by Mrs. Edward Miles Brown, consists of 318 bound volumes, 51 unbound volumes, and 83 pamphlets.

The Charlotte Hillebrand Memorial Library consists of French and German books, purchased from the proceeds of an endowment recently established in memory of the late Charlotte Hillebrand.

The Library of the American Association for the Advancement of Science has been placed under the charge of the University of Cincinnati, by the terms of an agreement with the Association, entered into on September 14, 1895. This collection consists at present of 5,600 volumes, for the most part periodical publications of foreign scientific societies.

The Historical and Philosophical Society of Ohio has deposited its valuable collections of books, pamphlets, and other articles in the Van Wormer Library of the University. This library comprises over 23,000 volumes and 68,000 pamphlets, pertaining chiefly to the history of the Ohio Valley, and contains valuable collections of original letters and other manuscripts.

The total number of books in the Van Wormer Library Building is about 84,000 volumes and 77,000 pamphlets.

To these collections must be added the libraries of departments of the University, situated in other parts of the city. These are:

The Library of the Observatory	3,500 volumes
The Library of the College of Law	11,000 volumes
The Library of the College of Medicine	3,000 volumes
The Library of the Cincinnati Hospital	18,309 volumes
Total	35,809 volumes

The libraries of the University, then, taken altogether, but excluding those of the Historical and Philosophical Society of Ohio and the American Association for the Advancement of Science, contain 90,809 volumes and 8,800 pamphlets.

The Public Library, of 438,767 volumes; the Mercantile Library, containing about 76,000 books; and the Lloyd Library and Museum, consisting chiefly of scientific works, as well as those of the Lane Theological Seminary, the Hebrew Union College, the Art Museum, and the College of Music, are open to University students.

UNIVERSITY PUBLICATIONS.

The University publishes the following periodicals at the University Press:

The University of Cincinnati Record,

Published monthly, from October to June inclusive. Its numbers include

The Annual Catalogue.
The Announcement of the Graduate School.
The Announcement of the McMicken College of Liberal Arts.
The Announcement of the College for Teachers.
The Announcement of the College of Engineering.
The Announcement of the College of Law.
The Announcement of the College of Medicine.
The President's Annual Report,

and other pamphlets of special information. Any number of the *Record* will be sent free of charge upon application to the Secretary of the University.

The University Studies,

Issued bi-monthly, is a scholarly publication, containing the results of research by members of the faculty or by other persons connected with the University of Cincinnati.

A price list of the literary and scientific publications of the University may be had by addressing the Office of the Press.

LABORATORIES.

The laboratory facilities offered in Botany, Zoology, Physiology, Histology, Physics, Chemistry, Psychology, Geology, and in the Engineering departments are equaled by few institutions in the West. The industries of the city afford abundant opportunity for the observation of the most recent scientific processes applied to manufacturing.

MUSEUMS.

The Museum of Natural History is located on the fourth floor of McMicken Hall, and consists of a number of geological and biological collections. Among others are specimens donated from the Zoological Garden from time to time; the Balke natural history collections, consisting chiefly of mammals, birds, and insects; the Huntington collection of shells; the Fillmore and Schneider collection of Philippine relics; the Fechheimer collection of igneous rocks; the Wetherby collection of rocks and

minerals; and lastly, a series of specimens illustrating the chemical industries. The department of Geology and Geography has also on exhibition a part of its working collections of maps, models, minerals, rocks and fossils. Among recent valuable additions are the Carl Holmes collection of Greenland birds, permanently loaned by Dr. and Mrs. C. R. Holmes; donations by Mr. E. Meyer and Dr. Arch. I. Carson; and several group mounts of large animals by the Custodian of the Museum. A skillful collector and taxidermist is at present engaged in completing collections of local material.

The Greek Room contains reproductions of the most noted works of Greek art. There were added to this collection recently a cast of Michel Angelo's "Twilight," the Praxitelean "Diana of Gabii," "Ajax," "Hector and Andromache," "Venus de Medici," "The Boy and Goose," "Psyche of Capua," "Diana of Versailles," and "Hero." Two additional statues (Minerva Giustiniani and the Lateran Sophocles) have been installed in the main corridor of McMicken Hall. These, together with the large carbon pictures of the Parthenon, Erechtheum, Acropolis, Corinth, and Paestum in the same hall, form a valuable adjunct to the collection of casts in the Art room.

Students of the classics and of industrial art derive much profit from the collections of the Cincinnati Art Museum; the Museum of the Society of Natural History and the Zoological Garden are utilized extensively for practical instruction in biological science; the Indian remains and mounds near the city are important for the study of archæology and history. Courses in schools of music and fine art, for which Cincinnati is noted, are frequently combined with University work.

THE TEACHERS' UNIVERSITY CLUB OF NATURAL HISTORY.

The Cincinnati Teachers' Club of Natural History is the outgrowth of the biological work done in the University during the year 1900-1901 by teachers in the schools of Cincinnati and of adjoining towns. It is a permanent organization, and constitutes a valuable adjunct to the regular class instruction in the University for those who wish to become familiar with work in the field, and to acquire facility in presenting the facts of nature at first hand. The club consists of active members only, and membership is restricted to persons who have done accredited work in Natural History in an approved institution of learning, or who have shown decided ability as teachers or investigators in some branch of Natural History.

Provision has been made whereby high school clubs and non-resident Natural History organizations may enter into affiliation

with the University Club. Upon acceptance of their application, the society concerned is given a certificate of affiliation, and is recommended to appoint one or more delegates to attend the meetings of the Central Club at the University. Such delegates may be admitted as bona fide members of the University Club of Natural History, provided the maximum limit of membership (fifty) is not thereby exceeded. A general meeting of all affiliated organizations is held at the University in June of each year.

THE ALLIANCE FRANÇAISE.

The Alliance Française, a national association, officially recognized by a decree of the President of the French Republic, October 23, 1886, aims to promote the study of the French language and literature in foreign lands.

The Cincinnati branch of the Alliance Française, in cooperation with the University of Cincinnati, has arranged for a number of lectures to be given during the year by some of the most eminent French writers of the day. To these lectures students at the University of Cincinnati are admitted by season tickets free of charge.

In 1904 the Alliance Française of Cincinnati established a Scholarship of $300 in the University, to be awarded to the student showing the greatest proficiency in French. The successful candidate is required to attend the summer course of instruction given by the Alliance Française in Paris.

THE UNIVERSITY SETTLEMENT.

The Settlement conducted by the University of Cincinnati was organized in the year 1899. In May of that year a Settlement Association was formed, and in September a house, situated on Liberty and Plum Streets, in one of the most densely populated districts in Cincinnati, was opened, and at present is in full operation.

This house has become the social and educational headquarters of the neighborhood, and is frequented by the people from the surrounding tenement houses. A competent head-resident, ably seconded by his wife, directs the work. Various clubs are led by volunteer workers from the University and city and enjoy the social and educational privileges of the Settlement. Some of the features of the Settlement are a gymnasium, a circulating library, a reading room, a savings bank, and a lecture and entertainment course. It has, besides, a large sewing-school and several cooking-classes. A clinic is conducted each afternoon and a district nurse gives her whole time to the neighborhood work. Thus

it furnishes an excellent experiment station for those who wish to do work in practical sociology. Students of the three upper classes doing regular work at the Settlement are given credit by the department of Political and Social Science.

This work is under the supervision of a Board of Directors, upon which serve representatives from the Faculty of the McMicken College of Liberal Arts, from the Alumnal Association, from the students of the University, and from business men of the city.

STUDENT ORGANIZATIONS AND PUBLICATIONS.

The students of the University have established a large number of organizations which are in flourishing condition. The Speakers' Club, an oratorical and debating society, is composed entirely of young men. The Debating Association of the University, including both young men and young women, arranges each year two or more debates with other institutions. The young women of the College of Liberal Arts have a Literary Society of their own, with its alumnal chapter, while the French Club and the German Club are open to men and women alike. There are two Glee Clubs, one for men, the other for women. Other student organizations are the Chemists' Club and the Chemical Journal Club, devoted to the interests of chemistry; the Economics Club; the Graduate Club, which is an organization of the students of the Graduate School, devoted to the encouragement of higher learning and research; the English Club, made up of advanced students in English; the Education Club, composed of the graduates of the College for Teachers; the Meliorist Club, organized for the investigation of social problems; and the History Club, recently formed for the discussion of historical questions. The Blue Hydra is a permanent organization devoted to the study of biology. Its membership is restricted, and new members are chosen each year from the best students of that subject in the Freshman class. The Academic Club is made up of the men of the College of Liberal Arts. The Engineers' Club includes the upper classmen of the College of Engineering, while the Student Branch of the American Institute of Electrical Engineering is composed of the advanced students in electrical engineering. In addition, there are tribunals in the several colleges for student self-government. A branch of the College Equal Suffrage League has recently been established in the University. Besides these organizations, there is the University Club, composed of representatives from the student clubs, the fraternities, and the four classes, the object of which is the promotion of the general welfare of the University.

The University annual, *The Cincinnatian*, is edited and published by the members of the Junior class. The *University Weekly News*, the official student paper, is issued every week during the University year by a student board of editors.

RELIGIOUS INFLUENCES IN THE UNIVERSITY.

The University is a public institution and is in no sense denominational. Yet a course in the Bible forms part of the curriculum. The teaching of the Bible is expressly called for by the will of Charles McMicken, but with this proviso, that denominational theology shall not be taught.

The Y. M. C. A. and the Y. W. C. A. of the University are allowed the free use of rooms in McMicken Hall in which to hold their meetings.

ATHLETICS.

Athletics are so controlled in the University that they play an important part in the college life of the student without seriously conflicting with the interest in class-room work.

Three hours' work each week in physical education is prescribed for the members of the Freshman class, and two hours for those of the Sophomore class, except students giving part of their time to professional studies. With them participation is voluntary. A physical examination of each student is made at the beginning and at the close of the session. This gymnasium work is designed to secure three main objects: health and organic vigor, bodily control and efficiency, erect carriage and symmetrical development. A large part of the work is done out of doors during good weather, and such games as football, base-ball, basketball, tennis and track athletics are a part of the students' training. Lessons in boxing, wrestling, and fencing are also given to students interested in this form of exercise.

All athletics and gymnastics are in charge of the Director of Physical Education and his assistants.

THE ATHLETIC FIELD.

A much-needed Athletic Field has recently been provided, and its equipment is nearing completion. When finished it will be one of the best college athletic fields in the country. One end has a base-ball diamond, the other a foot-ball gridiron. The track is one-fourth mile, built of cinder, with deep foundation. A straight-away one hundred and twenty yards, sixteen feet wide, extends in front of the new grand stand. The proximity of this field to

the gymnasium makes it a particularly valuable addition to the athletic equipment of the University. Its location between three hill-tops, which form a natural amphitheater, affords opportunity for thousands of people to view the games.

PHYSICAL TRAINING FOR WOMEN.

A special instructor has charge of the work in Physical Training for young women, which is required during the Freshman and Sophomore years. The work in the gymnasium is supplemented during the fall and spring with outdoor games.

REQUIREMENTS FOR ADMISSION AND FEES.

Detailed statements regarding the requirements for admission and the fees of the various colleges of the University may be found in their several announcements. Any further information desired may be had by addressing the Secretary of the University.

EXPENSES.

	Graduate School, Liberal Arts, or College for Teachers	Engineering	Law	Medicine
Tuition Fees - - -	$75 00	$75 00	$100 00	$125 00
Library Fees - - -	5 00	5 00	.....	.....
Matriculation, payable but once - -	.....	.....	.....	$5 00
Laboratory Fees - -	*	$35 to 45	.....	.....
Books - - - - - - -	$20 to 25	$25 to 30	$40 to 50	$45 to 60
Board and Room - -	$4 to $7 a week	$4 to $7 a week	$4 to $7 a week	$4 to $7 a week
Total Expense per year - - - - -	$325 to $450	$350 to $450	$350 to $500	$375 to $500

The Secretary of the University will furnish information regarding suitable boarding places in the vicinity of the University. The Secretary will also make every effort to secure employment in the city for students who desire to support themselves either wholly or in part while attending the University.

* Laboratory fees vary according to the courses taken.

COLLEGE FOR TEACHERS.

FACULTY AND INSTRUCTORS.

CHARLES WILLIAM DABNEY, Ph. D., LL. D., President of the University.

FRANK BENJAMIN DYER, LL. D., Lit. D., Superintendent of Cincinnati Schools.

WILLIAM PAXTON BURRIS, A. M., Professor of the History and Principles of Education, and Dean of the College for Teachers.

JOHN WILLIAM HALL, A. M., Professor of Elementary Education.

MICHAEL FREDERIC GUYER, Ph. D., Professor of Zoology.

BURTIS BURR BREESE, Ph. D., Professor of Psychology.

NEVIN MELANCTHON FENNEMAN, Ph. D., Professor of Geology and Geography.

GUY ALLAN TAWNEY, Ph. D., Professor of Philosophy.

HARRIS MILLER BENEDICT, A. M., Associate Professor of Biology.

ISAAC JOSLIN COX, Ph. D., Assistant Professor of History.

FRANK WASHINGTON BALLOU, A. M., Assistant Professor of the History and Principles of Education.

ALICE CYNTHIA KING, A. M., Assistant Professor of Elementary Education.

MARY ELIZABETH WEBER, A. B., Instructor in Elementary Education.

J. ERNEST CARMAN, B. S., Instructor in Geology.

LEON DENNING PEASLEE, A. M., Assistant in Zoology.

VERNON LANTIS, A. B., Teaching Fellow in Botany.

OTHER OFFICERS OF INSTRUCTION.

Courses in special subjects are given by the following persons connected with the Cincinnati public schools:

WALTER H. AIKEN, Supervisor, Music Department.

WILLIAM H. VOGEL, Supervisor, Drawing Department.

CARL ZIEGLER, M. D., Supervisor, Department of Physical Training and Hygiene.

A. H. STEADMAN, Supervisor, Penmanship Department.

H. H. FICK, Supervisor, German Department.

M. ELIZABETH HYDE, Director of Training, Course for Teachers of Art.

The technical instruction and training in kindergarten courses is given by the following persons on the teaching staff of the Cincinnati Kindergarten Training School:

LILLIAN H. STONE, Principal.
JULIA S. BOTHWELL, Supervisor.
GRACE ANNA FRY, Supervisor.
FRANCES M. HOLLINGSHEAD, M. D., Hygiene.
MRS. CLARA ZUMSTEIN MOORE, Physical Training.
JOHN JEROME THOMPSON, Art.

GENERAL STATEMENT.

The College for Teachers is the department of education of the University. It is organized under the joint management of the Board of Directors of the University and the Board of Education of the city of Cincinnati. It is primarily a professional school for the training of teachers under university auspices, in close touch with a cosmopolitan public school system which serves as a working laboratory for teachers and students of education. Affiliated with the college are the Cincinnati Kindergarten Training School, the Art Academy of Cincinnati, and the Art Department of the Cincinnati Public Schools.

GENERAL REGULATIONS.

The conditions governing admission, graduation, prerequisites, privileges, etc., vary with the different professional programs offered, and are best indicated in connection therewith, as follows:

PROGRAM I. For those fitting, primarily, for positions in elementary schools.

Admission.—This program is open to seniors and graduates, and may be pursued during a single year.

Seniors must be prepared to fulfill all the requirements for graduation in the College of Liberal Arts without being compelled to carry more than three hours' work per semester in addition to the courses in education indicated below.

Prerequisite Courses.—Before entering upon this program students must have had, as a part of their college courses, and as suitable prerequisites to the courses in education, the equivalent of the following:

Psychology, three hours per week for one year.
Ethics, three hours per week for one-half year.

Physiography, three hours per week for one year.

American history, three hours per week for one year.

Those who have had a year's study in American history in high school shall be exempt from the requirement in this subject.

Courses Required.

Education 1	6	credits.
Education 2	6	"
Laboratory work (30 hours' practice teaching in connection with Education 2)	2	"
Education 4	2	"
Elected from the following	8	"
Education 14	4	credits
Education 16	2	"
Education 18	2	"
Education 20	2	"
Education 22	2	"
Total	24	credits.

Graduation and Privileges.—Seniors who complete the above courses in education may count the same toward the A. B. degree in the McMicken College of Liberal Arts and receive a Teacher's Diploma from the College for Teachers. This diploma entitles the graduate to a place on the preferred list of those who are eligible to appointment in the Cincinnati schools without examination except in Theory and Practice of Teaching, as now required by the law of the State of Ohio, after two months of successful practice teaching.

Graduate students, in addition to receiving a Teacher's Diploma, will be given opportunity to fulfill the required practice teaching in the public schools during this year of study, so that they may become eligible to appointment in the local schools at the end of the year. They will also be permitted, by doing satisfactory pieces of independent work in connection with the courses in Education 1 and Education 2, to count either or both of these courses toward the A. M. degree in the Graduate School. They will not, however, be permitted to register in other courses in the University without the approval of the Dean of the College for Teachers, and in no case will they be permitted to choose work in any other department of the University in excess of three hours per semester.

All students pursuing this program have the further privilege of taking the brief courses in special subjects given by supervisors of the city schools on Saturday mornings (Education 32, 34, 36, and 38), in lieu of passing examinations in the teaching of these subjects.

PROGRAM II. For those fitting, primarily, for positions in secondary schools.

Admission.—This program is open only to graduates, with the approval of the Dean of the College for Teachers, the Dean of the Graduate School, and the head or heads of the University departments in which the student wishes to pursue advanced study; it may be taken in a single year. Students must give satisfactory evidence that they are well qualified, personally and otherwise, to undertake the work of this program and to become teachers in secondary schools. Such students must be willing to give two full high school sessions per week throughout the year (Tuesdays and Thursdays) as assistants in high school departments in which they are preparing to teach. Before registration a student must also be accepted by the principal of the high school and the head of the high school department in which apprenticeship is to be served; and in no case while pursuing this program will a student be permitted to choose more than the maximum of hours indicated below.

Prerequisite Courses.—Psychology and Ethics, as indicated in Program I.

Courses Required.

Education 1, as indicated in Program I..	6	credits.
Education 3.....	4	"
Practical Work	2	"
Graduate Work in not more than two subjects which the student is best qualified to teach	12	"
Total	24	credits.

Graduation and Privileges.—Completion of this program does not entail any privilege as to preference in appointment to positions as teachers in the local high schools, as is the case with the completion of Program I in relation to the local elementary schools. Nor, under the law of this state, can it exempt the graduate from an examination for a teacher's high school certificate, as Program I exempts a candidate for a teacher's elementary certificate from examination, except in Theory and Practice of Teaching.

This program, however, with the provision which it makes for practical touch with high school work, will entitle graduates who complete it in a satisfactory manner to favorable consideration for positions in accredited schools of the University and in high schools generally, both public and private. It is for meeting the demands upon the University for teachers of this class that this program is primarily intended.

Preference in appointment to positions in the local high schools is given to college graduates who have had successful experience as regular teachers in elementary or secondary schools, who have achieved high rank as students in subjects which they wish to teach, who have made a professional study of the principles and problems of secondary education, and who obtain satisfactory marks in the high school examination conducted by the local Board of Examiners.

College graduates teaching in local elementary schools who aspire to appointment in the high schools of Cincinnati should pursue advanced courses in subjects which they wish to teach and take Education 3. Provision for doing this will be arranged at hours which do not conflict with class room duties.

PROGRAM III. For those fitting, primarily, for positions in kindergartens.

Admission.—This program is open to seniors and graduates and may be pursued during a single year.

Seniors must have not less than ninety credits in the College of Liberal Arts, including all required courses in that college, and the prerequisite courses indicated below. Both seniors and graduates may be permitted to carry Biology 36 or 37, but with this exception students shall give their time undividedly to this program.

Prerequisite Courses.

Psychology, as in Program I.

Ethics, as in Program I.

Education 1.

Biology 36 and 37. Students who have elected Zoology in fulfillment of the science requirement in the College of Liberal Arts may omit Biology 36; those who have elected Botany may omit Biology 37.

Courses Required.—See list under Kindergarten Training, p. 35.

Graduation and Privileges.—Graduates who have completed the above program in a satisfactory manner may count the same toward the degree of Bachelor of Arts in Education conferred by the College of Liberal Arts and the College for Teachers jointly, and receive diplomas from the Cincinnati Kindergarten Training School certifying that they are qualified to be directors in kindergartens. They will also be eligible to appointment in the local public kindergartens without examination except in the Theory and Practice of Kindergartening.

PROGRAM IV. For those fitting, primarily, for positions as teachers of German in elementary schools.

Admission.—This program is open to seniors and graduates, and may be pursued during a single year.

Seniors must be prepared to fulfill all the requirements for graduation in the College of Liberal Arts, toward which this program will count to the extent of twenty credits.

Prerequisite Courses.—Before entering upon this program students must have had, as a part of their previous college courses, and as suitable prerequisites to courses in education, the equivalent of the following:

Psychology, as in Program I.

Ethics, as in Program I.

For those who have had no German in high school, the equivalent of German 1, 2, 3, 4, 21, 5 and 10 or 20.

For those who have had two years of German in high school, the equivalent of German 2, 3, 4, 21, 5 and 10 or 20.

For those who have had four years of German in high school, the equivalent of German 4, 21, 5 and 10 or 20.

In no case will students be permitted to enter upon this program without the ability to speak the German language readily and fluently.

Courses Required.

Education 1	6	credits.
Education 2	6	"
Education 4	2	"
Education 18	2	"
Education 30, with fifteen hours' practice per semester	4	"
Total	20	credits.

Graduation and Privileges.—The same as in Program I, with the following modifications:

The restriction as to the amount of other work to be carried by students does not apply to those pursuing this program. They shall, however, submit their cards to the Dean of the College for Teachers for his approval before registration. They should also arrange, if possible, to take the courses given on Saturday mornings by the Supervisors of Drawing and Music in lieu of examinations in these subjects.

PROGRAM V. For those fitting for positions as instructors in education, supervisors, critic teachers, or administrators in educational positions requiring experience and advanced study.

For meeting the needs of this class of students appropriate opportunity is given in advanced courses in education, including seminar work, and such courses may be counted toward fulfilling requirements for the higher degrees conferred by the Graduate School. For further information see statements in connection with the description of various courses.

PROGRAM VI. For those fitting for positions as teachers or supervisors of art.

See general statement and outline of the course on pp. 38-40.

SPECIAL STUDENTS.

Persons at least twenty years of age and qualified to do University work may be admitted as special students to lectures and laboratory courses. They will be required to furnish documentary evidence to the Director of School Affiliation, and also to satisfy the heads of the departments concerned of their ability to carry on successfully the courses which they desire to enter.

Before any special student can become a candidate for a degree he must satisfy the entrance requirements. All special students are amenable to the same regulations as apply to regular students in matters of examination, probation, discipline, etc.

SPECIAL COURSES.

Special Courses are offered to teachers in Cincinnati and vicinity, and are given on Saturdays and at hours during the week which do not conflict with the duties of the class-room. Credit is given on the books of the Registrar for satisfactory work done in these courses.

For other courses open to teachers, see the announcement of the various departments of the McMicken College of Liberal Arts under the head "For Teachers."

EXTERNAL COURSES.

During the year 1910-11 the University offers a number of External Courses representing many of its departments. The courses are given once a week for thirty weeks in the branches of the Public Library, in school buildings, and at various other points in the city. For a list of courses offered see special announcement of External Courses.

REGISTRATION.

New students should register in 1910 on Thursday and Friday, September 22 and 23; upper classmen on Saturday, September 24. In 1911 they should register on Monday, January 30. Students registering on any other days than those designated above will be required to pay a registration fee of one dollar.

All students who expect to become teachers should confer with the Dean of the College before filling out their course cards.

MISCELLANEOUS RULES AND REGULATIONS.

In case of doubt a student who is a candidate for a teacher's diploma may be required to give satisfactory evidence of physical ability to perform the duties of a teacher.

Each student shall at the beginning of the year leave his local address at the office of the Registrar and shall promptly report all subsequent changes of address.

Credit will be given for the number of hours officially published with each course and for no more. University work not regularly registered is forbidden.

All absences of students from class work must be accounted for, in case of the young men to the Dean, and in the case of the young women to the Dean of Women. A student who has been absent must report to his or her Dean within a week after returning to the University, or the absence shall be counted as unexcused.

A student shall not be admitted to the semester's examinations in any subject and shall be reported as having failed therein when his unexcused absences in that subject are as follows:

For one-hour course.....	2	absences.
For two-hour course.....	4	"
For three-hour course.....	5	"
For four-hour course.....	7	"
For five-hour course.....	9	"
For six-hour course.....	10	"

The scale of marks for recording grades is as follows:

A: 90-100.
B: 80-89.
C: 70-79.
D: 60-69 Passed.
E: 50-59 Conditioned.
F: 0-49 Failed.

A student in the College for Teachers who receives a grade below "D" in one-half of his work at the mid-term or at the end of any semester, shall be put upon probation with restricted work

for the next half semester of college work. Such a student, if similarly delinquent at the end of his term of probation, shall cease to be a member of the University.

If it shall be necessary to place a student upon probation a second time, it shall be within the power of the Dean to dismiss the student the moment his grades fall below "D" in one-half of his work.

Any student found to be inadequately prepared for University work or whose progress is unsatisfactory for any cause, may be dismissed from the University at the discretion of the President.

It is required as a condition for honorable dismissal that every student who wishes to withdraw from the University shall submit to the Registrar a written request to that effect.

In case a student withdraws from the University during any semester, credit will not be given for any of the work elected for that semester.

Copies of "Rules for the Guidance of Students" may be obtained at the office of the Secretary.

FEES.

All fees must be paid *in advance* to the Clerk of the Board of Directors during the days of registration. If fees are not paid promptly, the Dean is authorized to exclude students from attendance upon their classes. *No University fees are refunded.*

Library Fee. All students must pay a library fee of five dollars per year at the opening of the session.

Tuition. Tuition is free to regular students who are residents of Cincinnati. All other regular students are charged a tuition fee of thirty seven dollars and fifty cents per semester.

All special students are charged tuition at the rate of three dollars per hour of instruction per week per semester, in advance.

All irregular students (i. e. students regularly entered taking less than twelve hours of work per week by special permission) are charged at the rate of three dollars per hour of instruction per week per semester, in advance.

Laboratory Fees.

Geology, five dollars per semester, in advance.

Experimental Psychology, five dollars, per semester, in advance.

Biology, ten dollars per semester, in advance.

Physics, ten dollars per semester, in advance. (Five dollars per semester, in advance, for a laboratory course of one period a week.)

Chemistry, fifteen dollars per semester, in advance. (Metallurgy, seven dollars and fifty cents per semester.)

A deposit of fifteen dollars at the opening of the session is required of all students taking Chemistry, to insure the University against loss by breakage in the Chemical Laboratory. This deposit will be returned at the end of the year after deductions have been made for breakage.

A student who elects a laboratory course shall not be permitted to enter such a course until he presents to the instructor in charge a receipt for the payment of his laboratory fee.

Diploma Fee. Students who receive the degree of Bachelor of Arts in Education are charged a diploma fee of five dollars, payable at least two weeks before the day appointed for conferring the degree.

Special Examinations. A fee of one dollar will be charged for each supplemental examination for the removal of conditions. This fee must be paid even though the condition is removed without a supplemental examination. A fee of five dollars will be charged for entrance examinations on days other than those specified in the calendar.

Late Registration Fee.—Students who apply for registration or submit schedules of study on days other than those designated, will be required to pay a fee of one dollar.

Fees in the Special Courses for Teachers.—All teachers enrolled in the special courses are charged the regular library fee of five dollars a year. Tuition is free in the special courses given at the University to all teachers in public schools who are residents of Cincinnati or who, although non-residents, are engaged in teaching in the public schools of the city. All other teachers are charged tuition at the rate of three dollars per *course* per *year*, payable in advance.

The laboratory fee in a Teacher's course is five dollars per year.

Fees in Course for Teachers of Art.—See page 39.

REQUIREMENTS OF THE CINCINNATI BOARD OF EDUCATION.

For the benefit of students who wish to become teachers in the schools of Cincinnati a Circular of Information has been prepared showing the method of appointment, salaries, and character of the examination for teachers who are candidates for positions in the Cincinnati Public Schools. A copy of this circular may be had upon application to the Superintendent of Schools or the Dean of the College for Teachers.

APPOINTMENT COMMITTEE.

The Appointment Committee offers its services, without charge, to students seeking appointment to educational positions for which they are properly qualified. The Dean of the College as Chairman is assisted by other members of the faculty who are familiar with the student's work, and students who are candidates for appointment and who desire to avail themselves of the services of this Committee are invited to register at the office of the Dean, on blanks provided for this purpose.

COURSES OF INSTRUCTION.

The following is the list of courses offered for the year 1910-11. Certain of these courses are required of candidates for the first or preferred list of persons eligible to appointment in the Cincinnati schools. Others are intended to meet the needs of advanced students of education, as well as of teachers of experience. Courses which are prerequisite to the pursuit of the various professional programs for teachers are also included in this announcement, but with this exception only those which are primarily professional in character will be found here. All courses given in the University, many of which are semi-professional in character, are open to properly qualified students in the College for Teachers. (See the announcement of the McMicken College of Liberal Arts.)

EDUCATION.

Education 1. History and Principles of Education.—Lectures, required reading, and discussions. Beginning with primitive society, this course considers the various conceptions of education as they have arisen in the course of history. Special attention will be given to those conceptions which have been most instrumental in shaping current tendencies. M., W., F., 10:30-11:30. Professor Burris.

Open to seniors and graduates. When pursued by a graduate student this course may be counted for credit toward a graduate degree provided the student does a satisfactory piece of independent work and embodies the results of the same in an acceptable written thesis. A graduate student wishing to so count this course must declare his or her intention to this effect at the time of registration. This course is also a prerequisite for students pursuing Program III, and as such may be taken during the junior year. (See page 21.)

Education 2. Theory and Practice of Teaching.—Lectures, discussions, practical work, and required readings. Development of the principles of method of the recitation and their application in the proper conduct of class exercises in the several subjects of the elementary schools. Three hours of class work and fifteen hours of practice per semester. Hours for practice work must be arranged with the instructor before registration. M., W., F., 9:30-10:30. Professor Hall.

Open to seniors and graduates. Under the same conditions as those indicated under Course 1, when taken by a graduate student this course may count toward a graduate degree to the extent of six credits.

Education 3. Principles and Problems of Secondary Education.—The first part of the course will consider the principles of secondary education, with special reference to those derived from the psychology of adolescence. The second part of the course will be devoted to a critical consideration of the problems of high school organization, with special reference to courses of study, relative values of studies, and methods of instruction. S., 9:30-11:30. Professor Burris.

Open to graduates and teachers who contemplate appointment to high school positions. For the conditions under which graduate students may enter the course see Program II, p. 20.

Education 4. School Economy.—Lectures, discussions, and required readings. This course will consider principles and practice of class-room management, including such problems as preventing the waste of time and energy, preserving hygienic conditions, discipline, grading, promotions, tests. F., 11:30-12:30. Assistant Professor King.

Open to seniors and graduates. This course may not be counted for the higher degrees.

Education 5. Philosophy of Education.—Lectures, required readings, and discussions. The first part of the course will present an integrated view of the facts of the various sciences having educational significance, for the purpose of arriving at a philosophical definition of education as a whole. The second part of the course will deal with the organization of elementary education as determined by its philosophical meaning thus derived, and as modified by practical considerations. In appropriate connections there will be special consideration of the process of education as world building. The historical and logical origin, meaning, and classification of studies will be briefly considered. Special attention will be given to the question, What happens when we try to know? and to the place of symbolism and

systems of imitational and inventional expression in education. Credit will be given only to those who take the course throughout the year. S., 8:30-9:30.

Professor Burris.

Open to graduates and teachers of experience who have had some philosophical training.

Omitted in 1910-11.

Education 6. General Method.—This course is intended especially for appointees to positions in the public schools of Cincinnati since 1906 who have not had a course in this subject. S., 9:30-10:30. Professor Hall.

Education 7. Seminar.—Investigations and reports on special problems, chiefly in educational administration. Primarily for graduates, but open also to teachers of experience. W., 4:00-6:00. Professor Burris.

Education 12. Seminar.—Investigations and reports on problems in the theory and practice of teaching. Place of meeting to be arranged. W., 4:00-6:00.

Professor Hall.

For graduates of the College for Teachers and others properly qualified who wish to prepare for supervisory positions.

Education 13. History of Education.—This course is arranged to meet the needs of students in the Cincinnati Kindergarten Training School and of those in the Course for Teachers of Art who are not candidates for a degree. *First semester*, M., W., F., 3:00-4:00. Professor Burris.

Education 14. The Teaching of English.—Lectures, discussions, and required readings. This course will consider the selection and organization of the subject matter and method of treatment in the grades of the following subjects: reading, spelling, literature, composition, and grammar. M., W., 8:30-9:30.

Assistant Professor King.

Open to seniors and graduates; it may be counted toward the A. B. degree.

Education 16. The Teaching of History.—Lectures, discussions, readings, and reports. This course aims to cover the field of history as usually presented in elementary schools. A careful review of the subject matter, its arrangement for presentation, the consideration of difficulties involved, and the methods of overcoming the same will form the basis of the course. F., 8:30-9:30. Miss Weber.

Open to seniors and graduates; it may be counted toward the A. B. degree.

Education 17. Educational Classics.—An advanced course in the history of education. From year to year it will consist of a critical study of the more important writings of "Great Educators" of special periods. M., 4:00-6:00.

Professor Burris.

Open to graduates and teachers of experience who have a satisfactory knowledge of the history of education.

Omitted in 1910-11.

Education 18. Principles of Primary Instruction.—This course will aim especially to show how best to avoid an abrupt transition in passing from the kindergarten to the elementary school, by an application of kindergarten principles to primary work. W., 2:00-3:00. Miss Weber.

Open to seniors and graduates; it may be counted for the A. B. degree.

Education 20. The Teaching of Mathematics.—Lectures, discussions, and required reading. This course will aim to work up portions of material for presentation in the various grades according to the course of study, with devices and methods for their use. The principles underlying the above will be developed. *Second semester*, M., 11:30-12:30.

Assistant Professor King.

Open to seniors and graduates; it may be counted toward the A. B. degree.

Education 21. School-Room Activities.—This work will consist in the preparation for and discussion of hand work, constructive work, illustrative work (blackboard and paper, clay, paste, etc., and games). For teachers of the first four grades. S., 9:30-10:30. Miss Weber.

Education 22. The Teaching of Geography.—Lectures, discussions, and required readings. This course will deal with the collection of suitable material for teaching geography in the grades and with the organization and method of presentation of this material. *First semester*, M., W., 11:30-12:30.

Assistant Professor King.

Open to seniors and graduates; it may be counted toward the A. B. degree.

Education 23. Special Method in Arithmetic.—Lectures, discussions, and required reading. This course will deal with the theory and practice of teaching arithmetic. S., 8:30-9:30.

Professor Hall or Assistant Professor King.

Education 24. The Teaching of English.—This course will discuss the teaching of English classics, composition, and grammar in the elementary schools. S., 9:30-10:30.

Assistant Professor King.

Education 28b. Primary Teaching.—This course is for the purpose of acquainting prospective directors of kindergartens with the subject matter and method of the work done in primary grades, with special attention to the first year. *Second semester*, M., 2:00-3:00. Miss Weber.

Open to seniors in the Cincinnati Kindergarten Training School.

Education 30. The Teaching of German.—This course consists of instruction, observation, and practice teaching, and is intended especially for the teachers of German in the elementary schools. For the conditions under which students may enter this course see Program IV, p. 22. Fifteen hours of practice per semester. M., 9:30-10:30.

Supervisor Fick.

Education 32. The Teaching of Art and Hand Work.—The aim of this course is to familiarize those intending to teach in the public schools with the art and hand work pursued in the elementary grades at the present time, and to place before them the best methods for obtaining satisfactory results. This course will embrace work in paper and light cardboard, drawing and painting from plant life and animal life, landscape and still life; analysis of color and design; and picture study both from the art side and its use in connection with language work. This course prepares for the city examination in this subject. *Second semester*, S., 8:30-11:30, for ten weeks.

Supervisor Vogel.

Given at the Hughes High School.

Education 34. The Teaching of Music.—The purpose of the course is to give those who contemplate teaching in the public schools, or are at present teaching, a systematic and comprehensive training in the matter and method of school music. The system followed will be that used in the Cincinnati schools. This course prepares for the city examination in this subject. *First semester*, S., 8:30-9:30.

Supervisor Aiken.

Given at the Hughes High School.

Education 36. The Teaching of Physical Training and Hygiene.—This course is for those fitting for positions in elementary schools. It will not be considered sufficient preparation to qualify as special teacher. The course will include theory and practice of physical exercise, gymnastic games for the school-room and play-ground, school sanitation, and methods of teaching physiology and hygiene in the grades. *First semester*, S., 10:30-11:30.

Supervisor Ziegler.

Given at the Hughes High School.

Education 38. The Teaching of Penmanship.—This course will present the principles underlying the system of penmanship taught in the Cincinnati public schools, and will show the best methods of teaching it, accompanied by drills for the purpose of securing technique. The course prepares for the city examination in this subject. *First semester,* S., 9:30-10:30.

Supervisor Steadman.

Given at the Hughes High School.

CONFERENCES.

During the year weekly conferences will be conducted by instructors in the College for Teachers, in cooperation with principals and teachers in public schools, at hours and places to be announced at the beginning of the school year. Credit will be given at the University for work done in these conferences, and teachers who satisfy the requirements of the conductors will receive credit with the Superintendent of Schools toward fulfilling conditions entitling them to promotional salaries.

The enrollment in these conferences will be limited to twenty or twenty-five. The work will consist: (1) of teaching lessons by members of the class and by the conductors; (2) in the discussion of these type lessons; (3) of written criticisms. Presentation of type lessons and discussion of these in alternate weeks. The work for principals will bear strongly on their work in supervision of instruction and in teachers' meetings. To this end opportunity will be given them to take full charge of the discussion. Each member of the class will be expected to teach a type lesson for discussion.

BIOLOGY.

A list of all courses in biology given in the University will be found in the announcement of the McMicken College of Liberal Arts. Only those courses in this department which are of special interest to elementary teachers and to those preparing to teach in elementary schools and kindergartens are scheduled here.

The aim of the instruction is (1) to train teachers how to observe accurately, and (2) to lead them to a satisfactory point of view from which to direct the observations of children. A laboratory fee of five dollars is charged to cover the expense of material used.

Biology 36. Animal Life.—A course for beginners. Two credits per semester for A. B. S., 8:30-12:30.

Professor Guyer and Mr. Peaslee.

Omitted in 1910-11.

Biology 37. Plant Life.—A course for beginners. Two credits per semester for A. B. S., 8:30-12:30.

Associate Professor Benedict and Mr. Lantis.

Omitted in 1910-11.

GEOLOGY AND GEOGRAPHY.

A complete list of the courses given by this department in the University is contained in the announcement of the McMicken College of Liberal Arts. Only courses of special concern to those students who expect to teach or to persons who are already teaching are scheduled here.

1. Physiography.—A study of processes affecting the earth's surface; topographic forms; their origin, constant changes, and classification; influence of geographic features on habitation. The elements of meteorology and oceanography are studied briefly. After these principles, the several physiographic provinces of the United States are studied systematically. Lectures, W., F., 8:30-9:30; laboratory work, M., 2:00-4:00.

Mr. Carman and Professor Fenneman.

This course is prerequisite to the study of education as outlined in the professional program for elementary teachers on p. 18. It must be taken not later than the junior year by those students who expect to enter upon this program during the senior year. It may be taken as late as the senior year by those students who wish to prepare for teaching in elementary schools after graduation from the College of Liberal Arts.

If the size of the class exceeds that of one laboratory section, there will be an additional laboratory section meeting in the morning.

14. General Geology for Teachers.—Elements of dynamic, structural, physiographic, and historical geology. Lectures, S., 8:30-9:30; recitations and laboratory, 9:30-12:00.

Professor Fenneman.

HISTORY.

The following course in history is prerequisite to the study of education as outlined in the professional program for elementary teachers on p. 18 for all students who have not had a year's course in American history in high school. Those students who wish to complete this program during the senior year should take this course in history not later than the junior year. If the student wishes to defer preparation for teaching in the elementary schools till after receiving the A. B. degree, this course may be taken as late as the senior year.

For a complete list of all the courses offered in the department of History, see the announcement of the McMicken College of Liberal Arts.

History 15. General Course in American History.—This course, while open to all, is especially recommended for those who have not had American history in the high school and for those who contemplate taking work in the College for Teachers. The work covers the period from the earliest discoveries to the present time, and is based largely upon a text-book, supplemented by regular reports and occasional lectures. M., W., F., 8:30-9:30. Assistant Professor Cox.

PHILOSOPHY.

For a description of all the courses given by the department of Philosophy, see announcement of the McMicken College of Liberal Arts. Only those courses in this subject which are of special interest to teachers and prospective teachers are scheduled here.

Philosophy 5b. Ethics.—This is an introductory study of the moral ideas and institutions of man, with some reference to the relation between morality on the one side and political and ecclesiastical sanction on the other. It begins with the origin and growth of morality in the race and the individual, and includes some account of the moral problem of our present society. *Second semester*, M., W., F., 10:30-11:30.

Professor Tawney.

This course is prerequisite to entrance upon professional programs I, II, III, and IV, outlined on pp. 18-23. It should be taken in the junior year by those who pursue a professional program during the senior year. It may be taken in the senior year by those who expect to pursue a professional program after graduation from the College of Liberal Arts.

Philosophy 11. Educational Philosophy.—An historical, critical, and constructive discussion of relations between certain typical philosophical tendencies and the theory and practice of education. S., 9:30-10:30.

Professor Tawney.

For Teachers.

Philosophy 13. Logic.—An introductory course in inductive and deductive logic, with special reference to methods of classroom instruction. S., 9:30-10:30.

Professor Tawney.

For Teachers.
Omitted in 1910-11.

PSYCHOLOGY.

A list of all courses in psychology given in the University will be found in the announcement of the McMicken College of Liberal Arts. Only those courses which are of special concern to persons who contemplate teaching or who are already teaching are indicated here.

Psychology 1a. Introductory Psychology.—An analytical study of mental phenomena, with special reference to accurate observation and description. A general account of the subject matter of psychology. *First semester*, M., W., F., 11:30-12:30.
Professor Breese.

Psychology 1b. Introductory Psychology.—A continuation of 1a. *Second semester*, M., W., F., 11:30-12:30.
Professor Breese.

Courses 1a and 1b are prerequisite to entrance upon the study of education, as indicated in professional programs for teachers outlined on pp 18-23. Those who wish to pursue one of these programs should take these courses in psychology not later than the junior year. Those who wish to qualify for a teacher's diploma after graduation from the College of Liberal Arts may take these prerequisite courses in psychology during the senior year.

Psychology 6a. Educational Psychology.—The experimental and statistical methods in mental measurements. Intended for advanced students and teachers of experience. *First semester*, M., W., F., 2:00-3:00. Professor Breese.

Psychology 5. Genetic Psychology.—Mental development, with special attention to educational practice. One credit per semester for A. B. S., 11:30-12:30.
Professor Breese.

For Teachers.

Psychology 7b. Elements of Psychology.—Open to students of the Cincinnati Kindergarten Training School and to those in the Course for Teachers of Art who are not candidates for a degree. *Second semester*, M., W., F., 3:00-4:00.
Professor Breese.

KINDERGARTEN TRAINING.

The following courses in Kindergarten Training, not given at the University, may be taken at the Cincinnati Kindergarten Training School. The school is located at No. 6 Linton Street, Vernonville. Registration days Wednesday and Thursday, September 14th and 15th. Work begins on Friday, September 16th.

For conditions governing college students who are fitting primarily for positions in kindergartens, see Program III, page 21.

The Cincinnati Kindergarten Training School issues a special announcement giving full information, a copy of which may be had upon application to the Registrar at the above address.

COURSES.

Kindergarten Activities.

Gifts.—This course has for its aim a thorough knowledge of kindergarten material, a comparative study of typical and original plays or lessons with the gifts, and a study of Froebel's underlying principles. Juniors. *First semester*, Th., 9:00-11:00. *Second semester*, two hours, to be arranged. Three credits.

Miss Stone.

Handwork.—This course includes both the old and new occupations, with practice in each. Also the preparation of simple courses adapted for use in the kindergarten. Juniors. *First semester*, Tu., 10:00-12:00. Seniors. *Second semester*, Tu., 10:00-12:00. Four credits. Miss Stone, Miss———.

Rhythms, Songs, and Games.—Juniors and seniors. Tu., 3:00-4:00, throughout the year. Three credits. Miss Fry.

Each of these courses includes theory and practice, and is intended to develop resourcefulness and originality in the student, as well as to give technical mastery of kindergarten instrumentalities.

Kindergarten Theory.

This course includes an introductory study of Froebel's Mother Play as the basis for story, song, and game in kindergarten teaching. Also the study of Froebel's writings, for the purpose of discovering the educational laws which form the foundation for child development and personal culture. Juniors, one hour, throughout the year. Seniors, two hours, throughout the year. Six credits. Miss Stone, Miss Fry.

Kindergarten Stories.

This course includes lectures, discussions, and reference work concerning the literature of childhood, together with regular practice in the telling of stories. Juniors and seniors. Throughout the year; hour to be arranged. One credit.

Miss ———.

Program Construction.

A critical resume of every division of kindergarten work and the educational principles involved. The careful planning of programs for definite periods of time and for meeting different conditions. Seniors. W., 2:00-4:00. Four credits.

Miss Bothwell.

Kindergarten Observation.

Carefully supervised observation of the entire morning's work in kindergarten, followed by a discussion of the various activities and the educational principles involved. Juniors. *First semester*, hours to be arranged. Two credits.

Miss Stone, Miss Fry.

Practice Teaching.

A minimum of one-half year (days to conform to the public school calendar) in private, mission, or public school kindergartens, under at least two directors. Opportunity for increasing responsibility under careful supervision. Additional practice may be required to demonstrate the student's ability to satisfactorily conduct every phase of kindergarten work. Juniors and seniors. Ten credits. Miss Stone, Miss Fry.

Organization of Mothers' Meetings.

A series of lectures covering the essentials of parliamentary law and the general purpose and subject matter of mothers' meetings. Short talks suitable for different occasions are prepared and given by the students. Seniors. *Second semester.* Two hours, to be arranged. Two credits.

Miss Laws and Miss Stone.

Art.

Rapid sketching on blackboard; brush work in ink and water color; decorative design. Art in kindergarten—decoration, pictures, and children's work. Seniors. Hours to be arranged. One credit. Mr. John J. Thompson.

Music.

Study and criticism of kindergarten music, the child's voice, rhythm, and development of ear and tone. Attention to instrumental music with each student. Juniors and seniors. *Second semester*, Tu., 1:30-2:30. One credit.

Supervisor Aiken.

Physical Education.

Hygiene.—Dr. Hollingshead.

Physical Training.—Mrs. Moore.

To afford knowledge of sanitation, food, dress, exercise, rest, children's diseases, and emergencies. To give ease and grace of movement, a wise conservation and use of energy, and to correlate with games played in the kindergarten such movements as are essential to the child's general development. Juniors and seniors. Throughout the year, hours to be arranged. One credit each year.

Kindergarten Directors' Conference.

Lectures, discussions, suggestions in program work.

Occasional talks by prominent kindergartners and specialists in education from other cities. M., 2:00-4:00, throughout the year. Miss Bothwell.

COURSE FOR TEACHERS OF ART.

The purpose of this course is to prepare students for the positions of teacher of drawing and supervisor of art instruction in public or private schools.

Admission presupposes (a) the satisfactory completion of an approved curriculum in a secondary school, and (b) an amount of work in art of approved quality equivalent to that represented by two years of study in the Art Academy of Cincinnati. It is understood, however, that all students are admitted upon a month's probation during which they must give satisfactory evidence of a high degree of capability in art and show that they are otherwise qualified to pursue the course.

The course is two years in length, during which the student's time is divided about equally between the professional program of the College for Teachers and studies in art at the Art Academy of Cincinnati. The satisfactory completion of the course leads to graduation and a diploma certifying that the holder is qualified to teach art or supervise art instruction in public or private elementary and secondary schools.

To students seeking a teacher's training course in art, Cincinnati offers exceptional opportunities. The Art Academy is a thoroughly equipped school for the training of artists. Adjacent to it is the Cincinnati Museum, containing large collections of painting and sculpture, as well as of the applied arts. Each

month, also, special exhibits of contemporary interest are arranged, and the Museum has a reference library relating especially to art. The larger Public Library and the University Library are also available. In the University various lectures are open to students. Those interested in natural history have access to the Museum of the Society of Natural History, and the Cincinnati Zoological Garden, which is large and well kept. A local art industry of unusual interest is the Rookwood Pottery.

The work of observation and practice teaching is done in the regular public elementary and high schools of Cincinnati, under the expert guidance of the Director of Training, who has official oversight of the art work in certain schools utilized for this purpose. This phase of the course, therefore, is conducted under the ideal conditions necessary to give the student a truly professional preparation. In connection with this practice are wrought out lesson-plans and outlines of work for the various grades of the elementary and high schools, in harmony with the requirements of a well graded course of study based upon modern educational principles. In this way the ability of students to organize a progressive course in art instruction is thoroughly tested.

The fees per year for the course are payable in advance, as follows:

Library Fee, at the University.....$ 5.00
Laboratory, at the University..... 25.00
Tuition, at the Art Academy of Cincinnati..... 25.00

In addition to the above, non-residents of Cincinnati are required to pay a special tuition fee of $18.00 at the University during one year of the course for instruction in psychology and the history of education.

OUTLINE OF THE COURSE.

Miss M. Elizabeth Hyde, Director of Training.

(Unless otherwise specified, the work of the course will be conducted at Hughes High School.)

JUNIOR YEAR.

M., T., W., Th., F. (forenoons). Work at the Art Academy.

M., 1:00-3:30....Methods; Theory and Practice. Miss Hyde.

T., 1:00-3:30....Water Colors. Miss Hyde.

W., 1:00-3:30....Art Design and Application. Miss Hyde.

F., 1:00-3:30....Construction Work and Clay Modeling. Miss Hyde.

S., 9:00-12:00....Mechanical Drawing. Supervisor Frank H. Ball.

M., W., F., 4-5..Education 13a (first semester) and Psychology 7b (second semester). See pp. 29, 35.

SENIOR YEAR.

M., 9:00-12:00...Methods and Pictorial Composition. Miss Hyde.

T., 8:40-12:00...Observation and Practice Teaching in elementary schools under the supervision of Miss Hyde.

Th., 8:30-1:30...(with intermission for luncheon). Observation and Practice Teaching in high schools under supervision of Miss Hyde.

F., 9:00-12:00...Design and Classic Ornament. Miss Hyde.

S., 9:00-12:00...Mechanical Drawing. Supervisor Frank H. Ball.

M., T., W., Th., F. (afternoons). Work at the Art Academy, including lectures on the History of Painting, Sculpture, and Architecture on Tuesdays and Thursdays.

University of Cincinnati Record

THE NEW YORK PUBLIC LIBRARY
ASTOR, LENOX AND TILDEN FOUNDATIONS

Series I, Vol. VI, No. 6. MARCH, 1910.

ANNOUNCEMENT OF THE

EXTERNAL COURSES

1910-1911

ISSUED MONTHLY FROM OCTOBER TO JUNE INCLUSIVE.

PUBLISHED BY THE UNIVERSITY OF CINCINNATI,
AT THE UNIVERSITY PRESS,
BURNET WOODS, CINCINNATI, OHIO.

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THE UNIVERSITY OF CINCINNATI

COMPRISES THE FOLLOWING DEPARTMENTS:

I.

THE GRADUATE SCHOOL.

II.

THE McMICKEN COLLEGE OF LIBERAL ARTS.

III.

THE COLLEGE FOR TEACHERS.

IV.

THE COLLEGE OF ENGINEERING.
(Mechanical, Electrical, Civil, and Chemical Engineering.)

V.

THE COLLEGE OF LAW.
(The Cincinnati Law School.)

VI.

THE OHIO-MIAMI MEDICAL COLLEGE.
(The Ohio and the Miami Medical Colleges united.)

VII.

THE DEPARTMENT OF CLINICAL MEDICINE.
(The Clinical and Pathological School of the Cincinnati Hospital, Affiliated.)

For the special announcements of the various departments and further information, address:

THE SECRETARY OF THE UNIVERSITY,
CINCINNATI, OHIO.

THE UNIVERSITY OF CINCINNATI.

EXTERNAL COURSES, 1910-11.

FIFTH YEAR.

The success of the External courses during the past four years seems to justify a continuance and extension of this form of popular instruction. The addition of the new class of "auditors" has brought a large increased attendance of persons who desire to receive the benefit of the higher education, but who, nevertheless, are not candidates for degrees or school credits. Indeed, almost twice the number of "auditors" were enrolled in the External courses during 1909-10 as in the preceding year. It is the desire of the University to extend this opportunity as widely as possible to the citizens of Cincinnati and vicinity, and their cooperation to this end is invited.

NATURE OF COURSES.

The External courses consist of a series of lectures, given once a week throughout thirty weeks of the college year, and cover a variety of subjects.

ORGANIZATION OF COURSES.

These courses will be organized during the week of October 3-8, 1910.

TIME AND PLACE OF MEETING.

This information is given under the description of each course following. Instruction centers are located in the branches of the Public Library and in school buildings.

REGISTRATION

For the External courses will take place at the Registrar's office, McMicken Hall, Burnet Woods, during October 1-15. Opportunity will also be given to register at the first two meetings of each class.

CONDITIONS OF ADMISSION.

Students who are candidates for a degree or who desire to obtain University credit are admitted to the External courses on the same terms that govern admission to the McMicken College of Liberal

Arts. Regular students are admitted by certificate or on examination. In addition to the classes of students indicated above, there is a special class, called Auditors, who are not candidates for an academic degree, and who do not seek University credit for attendance upon External courses.

FEES.

For regular students the fees are the same as in the McMicken College of Liberal Arts; they must pay a Library fee of five dollars, which admits them to all External courses and courses in the McMicken College of Liberal Arts. There is no further charge to regular students who are residents of Cincinnati and to teachers in public schools who are residents of Cincinnati, or who, although non-residents, are engaged in teaching in the public schools of the city. All other teachers and special students pay, in addition to the Library fee, a tuition fee of three dollars an hour per semester, and may obtain University credit. Auditors pay a single fee of five dollars for each External course.

UNIVERSITY CREDIT

Is given, in the same manner as in the McMicken College of Liberal Arts, to regular students who perform satisfactorily the work of the course. Such credit may be counted toward the degree of Bachelor of Arts.

ADDITIONAL COURSES.

It is the intention of the University to establish additional courses at new centers wherever there is a demand for such instruction, provided, of course, that sufficient patronage can be assured. Correspondence toward this end will receive prompt consideration.

In answer to requests that have been received, courses will be established at Price Hill, Westwood, and again at Clifton, at the opening of the new session, if the attendance will warrant.

"EXTERNAL COURSES,"
UNIVERSITY OF CINCINNATI,
Cincinnati, Ohio.

COURSES OFFERED IN 1910-11.

BIOLOGY.

LIFE AND LIVING THINGS.

(Course 115.)

by

MICHAEL FREDERIC GUYER, Ph. D.,
Professor of Zoology.

1. Conditions which animals must meet in order to live.
2-3. How various animals meet these conditions.
4. Conditions which plants must meet in order to live.
5-6. How various plants meet these conditions.
7. Inter-relations of plants and animals.
8. Structural analysis of the living machine.
9. Living and non-living matter. What is life?
10. The seat of life. Origin of life on the earth.
11. The transformation of non-living into living matter in the living organism.
12. Some recent attempts toward synthesizing the physical basis of life.
13. The classification of plants and animals.
14-15. A synoptic review of the animal kingdom.
16. A synoptic review of the plant kingdom.
17. The origin of the different kinds (species) of animals and plants. Views of Aristotle, Pliny, Linnaeus, Lamarck, Cuvier, and Darwin.
18. Evolution: The evidence from the structures of animals.
19. Evolution: The evidence from the past history of animals and from geographical distribution.
20. Evolution: The evidence from the development of the individual.
21. The evolution of man.
22-23. Darwinism.
24. Modern criticism against the Darwinian theory. The mutation theory.
25. Heredity.
26. The mechanism of heredity. Origin of sex.
27. Theories of heredity.
28. Do modifications acquired by the parent specifically affect the offspring?
29. Some newly discovered laws of heredity.
30. Some social problems in the light of heredity.

Wednesday, 4:00-5:00 p. m., at the Cumminsville Branch Library.
First meeting, October 5, 1910.

BIOLOGY.

PLANTS AND ANIMALS OF IMPORTANCE TO MAN.

(Course 101.)

by

HARRIS MILLER BENEDICT, A. M.,

Associate Professor of Biology.

The purpose of this course is to show that even the most commonplace objects in our daily life become centers of continuous interest when we discover their origin, learn the human associations grouped around their evolution, and understand the characteristics which today make them of importance to man. It is obvious that these are also very practical materials for nature-study. With this end in view the following topics will be treated in lectures and in two field excursions.

Two preliminary lectures will be given on the relations between prehistoric man and plants and animals, followed by a discussion of the methods by which the history of cultivated plants and domesticated animals has been traced from earliest times to the present.

Wheat—"A gift from the gods."
Bread yeast; the evolution of the wheaten loaf.
Barley, rye, malt; brewing and distilling.
Oats and rice; breakfast foods.
Maize; cintli, the American Ceres.
Cocoa, chocolate; coffee and its substitutes.
Peas, beans, lentils, and peanuts; meat substitutes.
The apple; cider, vinegar.
Peaches and pears.
The grape; wines; early vineyard failures in America.
Cherries, plums, prunes, and almonds.
Pumpkins, squashes, melons, and cucumbers.
Poppy and opium; tobacco.
Citron, limes, lemons, and oranges; "Golden apples of Hesperides."
Berries, tomatoes, and pine-apples.
The date, fig, banana, and olive; salad oils.
Spices.
Radishes, turnips, sweet potatoes, and beets; beet sugar.
Potatoes and artichokes; starch; truffles.
Sugar cane, broom corn, cane sugar.
Hemp, flax, cotton, raffia; linen, burlap, mercerized cotton.
Tea, spinach, lettuce, and parsley leaves.
Onions and mushrooms. Summary of cultivated plants.
The dog, the cat, and the cheeta.
The horse, donkey, and mule.
Cattle; meat and milk.

Swine, sheep, and goats.
Chickens, ducks, geese, and turkeys.
Song-birds as insect destroyers.
Our winter birds; open lectures illustrated with the stereopticon.
Field bird excursion. Time to be arranged.
Mosquito and malaria; the typhoid fly.
The vinegar eel and its dangerous relatives; trichina and hookworm.
Bacteria in foods; milk, water, soil, and air.
Excursion to the filtration plant of the Cincinnati Water Works.

Tuesday, 4:00–5:00 p. m., at the Walnut Hills High School. First meeting, October 4, 1910.

This course will be repeated at the Westwood School if a sufficient attendance is assured.

ENGLISH.

COMPARATIVE LITERATURE.

(Course 128.)

by

FRANK WADLEIGH CHANDLER, Ph. D.,

Professor of English and Ropes Professor of Comparative Literature.

Doctor Chandler, who comes to the University as Professor of English and Ropes Professor of Comparative Literature, will give an External course in some phase of his particular field of work, at the University School. It will not be possible to fix upon the subject mattero r the time at which the course will be held until the arrival of Professor Chandler in Cincinnati, when he will meet those who are interested in establishing this course. In the meanwhile, those who desire to enter this class should hand in their names and addresses to the University.

ENGLISH.

LITERARY FORMS AND THEIR DEVELOPMENT IN ENGLISH LITERATURE.

(Course 129.)

by

GEORGE MOREY MILLER, A. M.,
Associate Professor of English.

The object of the course is two-fold: (1) to provide for a more discriminating enjoyment of individual pieces of literature as forms of fine art, by an analysis of the chief literary forms and their inter-relations; (2) to serve as a guide to characteristic representatives of these forms by tracing their development in outline from their earliest stages through the successive periods of English literature. The discussion of individual authors and of the characteristics of the different periods in English literature will be only incidental to the chief aims of the course.

A—The Classification and Definition of Literary Forms (ten lectures).

1. General purpose—instruction and entertainment. General form—poetry and prose.
2. The epic.
3. The lyric.
4–5. The drama.
6–7. The novel.
8–9. The essay.
10. Style.

B—The Development of Literary Forms (eighteen lectures).

11. Outline of the periods of English literature.
12. Early stages in folk literature—the choric song and dance. The ballad.
13–15. Narrative poetry—The folk epic—*Beowulf*. Medieval story-telling poetry—romance, lay, dit, fabliau. *Faerie Queene*. *Paradise Lost*. Translations. Later narrative poetry.
16–18. Lyric poetry—Old English; medieval; Elizabethan; Cavalier; romantic; Victorian.
19–21. Drama—Folk drama. Medieval religious drama. Elizabethan drama. The restoration. The eighteenth century. The nineteenth century. Contemporary drama.
22–24. Novel—Medieval prose tales. Elizabethan romances and tales. The eighteenth century. The nineteenth century.
25–27. Essays—Pre-Baconian attempts. Bacon. The seventeenth century. The eighteenth century. The nineteenth century.
28. Retrospect and prospect.

Tuesday, 4:00–5:00 p. m., at the North Cincinnati Branch Library. First meeting, October 4, 1910.

ENGLISH.

THE HISTORY OF AMERICAN LITERATURE.

(Course 130.)

by

EMILIE WATTS McVEA, A. M.,

Assistant Professor of Literature.

1. The elements that influenced the early writings of America.
2. The first historians of America: John Smith, William Strachey, William Bradford, John Winthrop, Edward Johnson; the Burwell papers.

3–4. The influence of the clergy in early American literature: John Cotton, Roger Williams, Thomas Shepard, Increase Mather, Cotton Mather, Jonathan Edwards.

5. American verse in the seventeenth century: Edmund Rich, William Morrell, the Bay Psalm Book, the New England Primer, Anne Bradstreet, Michael Wigglesworth.
6. Early American humor: Thomas Morton, Nathaniel Ward, John Seccomb, Benjamin Franklin.
7. The Hartford wits: Timothy Dwight, Joel Barlow, John Trumbull.
8. The prose writers of the Revolution: Patrick Henry, Thomas Paine, Thomas Jefferson, Alexander Hamilton, Francis Hopkinson, John Adams.
9. Philip Freneau, the poet of the Revolution.
10. The early American novelists: Hannah Foster, Susannah Rowson, Charles Brockden Brown.

11–12. Washington Irving and the Knickerbocker School.

13. Novelists of adventure: James Fennimore Cooper and John P. Kennedy.
14. William Cullen Bryant: journalist and poet.

15–16. Edgar Allen Poe: critic, poet, and story-writer.

17. The noted early magazines of America: the *North American Review*, *Knickerbocker's*, the *Southern Literary Messenger*, *Graham's*, the *Atlantic Monthly*.

18–19. The influence of Unitarianism and the anti-slavery and Transcendental movements upon American literature.

20. Emerson as poet.
21. Emerson as essayist.
22. Longfellow's contribution to American literary art: sense of form, expression of beauty, eclecticism.
23. Whittier's realism and idealism.
24. Lowell as satirist, poet, and critic.

25–26. A group of humorists: Oliver Wendell Holmes, George William Curtis, Frank Stockton, "Mark Twain."

27. Walt Whitman, destructive and constructive.
28. Sidney Lanier, the poet of the New South.
29. The later American poets.

Wednesday, 4:00–5:00 p. m., at the Avondale School. First meeting, October 5, 1910.

This course will be repeated at the Clifton School if a sufficient attendance is assured.

FRENCH.

THE DEVELOPMENT OF THE FRENCH NOVEL FROM THE TIME OF THE RENAISSANCE.

(Course 181.)

by

PHILLIP OGDEN, Ph. D.,

Professor of Romance Languages.

1. Outline of the course.
   General survey of conditions in 1550.
2. The pastoral novel: *Astrée.* The heroic novel. Gomberville; Scuderi.
3. The reaction. Beginnings of realism. Sorel Furetière.
4. The first modern novel.
5. The moralists. The picaresque story of adventure. *Gil Blas.*
6. The novel with an avowed purpose: *Manon Lescaut.*
7. The lyric novel of temperament. Rousseau. His educational theories.
8. Description in fiction: *Paul et Virginie.* Romantic feeling in *Atala. René.*
9. The growth of self-analysis. *Adolphe. Obermann.*
10. The biographical story: *Delphine, Corinne.* Mme. de Staël.
11. The work of de Maistre—*Voyage autour de ma Chambre.* The fantastic tale. Nodier.
12. The growth of the short story of spontaneous feeling. Musset, Merimée, Gautier.
13. The great teacher of the nineteenth century. Stendhal.
14. George Sand. The literary machine. The idealistic school. The pastoral genre.
15. The quintessence of romanticism. Hugo. *Notre Dame de Paris.*
16. The continuation of idealism. Feuillet. Theuriet.
17. The beginning of the Feuilleton-Roman. Sue.
18. Realism: Balzac.
19. Flaubert: poet and scholar. *Salammbô.*
20. Morbid and pathological detail. The Goncourt Brothers.
21. The theories of the naturalistic school. The work of Zola.
22. The realism of Daudet. *Fromont jeune et Risler aîné.*
23. The novel of intuitivism and of modern soul-life. Rod.
24. The description of Loti. Impressionism. The artist; the man.
25. The short realistic story. Maupassant.
26. The novel of psychology. Bourget.
27. The dilettante and scholar in fiction. *Thaïs. La Rôtisserie de la Reine Pédauque.*
28. Existing conditions in French fiction.

Tuesday, 4:00–5:00 p. m., at the Walnut Hills Branch Library.
First meeting, October 4, 1910.

GREEK.

MASTERPIECES OF GREEK LITERATURE.

(Course 132.)

by

JOSEPH EDWARD HARRY, Ph. D.,
Professor of Greek

(This course will be given in English, and does not require a knowledge of Greek).

1. The Greek genius and the Greek language.
2. The art and literature of the Greeks (illustrated).
3. Homer—general characteristics.
4. The *Iliad* and *Odyssey*.
5. Hesiod.
6. The lyric poets.
7. Sappho and Pindar.
8. The drama.
9. The Greek theatre (illustrated).
10. Aeschylus.
11. *Prometheus Bound.*
12. *Agamemnon* (illustrated).
13. *Choephoroi* and *Eumenides.*
14. Sophocles.
15. *Ajax.*
16. *King Oedipus* (illustrated).
17. *Antigone.*
18. *Electra.*
19. Euripides.
20. *Alcestis.*
21. *Medea.*
22. *Hippolytus.*
23. *Bacchae.*
24. *Iphigenia in Tauris.*
25. Aristophanes and Greek comedy.
26. *The Frogs.*
27. *The Clouds.*
28. *The Birds.*
29. *The Wasps* and *The Women Voters.*

Thursday, 4:00–5:00 p. m., at the Walnut Hills Branch Library.
First meeting, October 6, 1910.

EUROPEAN HISTORY.

THE PERIOD OF THE RENAISSANCE.

(Course 133.)

by

MERRICK WHITCOMB, Ph. D.,
Professor of History.

This course will deal with the Renaissance in the wider interpretation of the term, including invention, discovery, and the various human activities that go to the making of the new life in Europe. Attention will also be given to the literary productions of the Italian and German humanists. Lantern slides will be used.

1. Why the Renaissance began in Italy.
2. The Italian cities; transition to despotism; Milan.
3. The Republics: Venice and Florence.
4. Rome and Naples.
5. Dante Alighieri.
6. Petrarch.
7. Boccaccio.
8. The collection of the materials; libraries.
9. The Medici and the Florentine Academy.
10. The Court of Urbino.
11. Sacchetti and his description of manners and customs.
12. Machiavelli and *The Prince.*
13. *Il Governo Della Famiglia.*
14. The Roman group: Poggio; Valla.
15. Political conditions in Rome.
16. The sack of Rome in 1527.
17. The transmission of the new learning across the Alps.
18. Early German humanists: Agricola; Wimpheling.
19. Universities and schools in Renaissance Germany.
20. Reuchlin and the Obscurists.
21. The life of Erasmus.
22. The writings of Erasmus.
23. Effect of Lutheran movement on the Renaissance.
24. Effect of the Renaissance in France.
25. The Renaissance in England.
26. Invention: printing; the compass; weapons.
27. The age of discovery.

References for reading: Symonds, *Age of Despots* and *The Revival of Learning.* Members of the class should use Whitcomb, *Source-book of the Renaissance.*

Monday, 7:30–8:30 p. m., at the Walnut Hills Branch Library. First meeting, October 3, 1910.

EUROPEAN HISTORY.

ANCIEN RÉGIME AND REVOLUTION.

(Course 134.)

by

MERRICK WHITCOMB, Ph. D.,
Professor of History.

1. Henry of Navarre and the establishment of Bourbon power.
2. Louis XIII and Richelieu.
3. The age of Louis XIV.
4. Decline of the Bourbon power to 1789.
5. Social conditions in France prior to 1789.
6. Financial difficulties of the crown.
7. Period of the French philosophers—Montesquieu.
8. Voltaire.
9–10. Rousseau.
11. Diderot and the Encyclopaedia.
12. Helvetius and d'Holbach.
13. Efforts of Louis XVI for reform; Turgot, Necker.
14. The calling of the Estates General.
15. The constitution of 1791 as compared with the cahiers.
16. The civil constitution of the clergy.
17. The insincerity and fall of the king.
18. Struggle between Girondists and Jacobins.
19. Growth of the Committee of Public Safety and the Reign of Terror.
20. The system of Robespierre.
21. Decline of the Jacobin power.
22. Rise of Napoleon Bonaparte.
23. Establishment of the empire.
24. Napoleon and Josephine.
25. The campaigns of the empire.
26. Extent of Napoleonic reforms in Europe.
27. Fall of Napoleon.
28. Reconstruction of Europe; Congress of Vienna.

Recommended for reading: Lowell, *The Eve of the French Revolution*; Gardiner, *The French Revolution*; Fournier, *Napoleon*. Morse Stephens, *The Revolution and Europe*, furnishes outline reading for the course in one volume.

Wednesday, 4:00–5:00 p. m., at the Norwood Branch Library. First meeting, October 5, 1910.

AMERICAN HISTORY.

TERRITORIAL ASPECTS OF AMERICAN HISTORY.

(Course 135.)

by

ISAAC JOSLIN COX, Ph. D.,
Assistant Professor of History.

The object of this course is to review the development of the United States from the standpoint of territorial expansion, giving especial emphasis to the early land and transportation policy of the government and to the later movements for the conservation of national resources. The lectures are designed to be popular rather than technical in character, and where proper facilities exist will be illustrated.

1. The geographical basis of American history.
2. The native Americans: their classification and distribution.
3. European explorations within the United States.
4. The first areas of European settlement.
5. The era of European conflict for supremacy in America.
6. The independence and union of the English colonies.
7. The beginnings of the westward movement.
8. State claims and territorial cessions.
9. The first colonial policy of the United States.
10. The colonization of the Northwest and of the Southwest.
11. The Louisiana Purchase; the first fruits of expansion.
12. Early exploration of the far West.
13. Territorial controversies and compromises—Florida and Texas.
14. The land policy and internal improvements.
15. The colonization and independence of Texas.
16. Prairie commerce and mountain exploration.
17. American extension to the Pacific, northwest.
18. American extension to the Pacific, southwest.
19. Slavery extension in the new territories.
20. American expansion and Isthmian transit.
21. The development of the homestead policy.
22. Government aid for transcontinental railways.
23. The passing of the western frontier.
24. The government and its Indian wards.
25. The reclamation of the arid West.
26. The Alaskan empire.
27. The policy of national conservation.
28. Our island possessions and the Canal Zone.

Wednesday, 4:00–5:00 p. m., at the Price Hill Branch Library. First meeting, October 5, 1910.

ENGLISH HISTORY.

SINCE THE TIME OF THE TUDORS.

(Course 136.)

by

J. F. DILWORTH, A. M.,
Instructor in English History.

1. Economic changes in the sixteenth century.
2. Elizabeth, Mary Stuart, and Philip the Second.
3. The Spanish Armada.
4. Results of the sixteenth century.
5. Government by divine right.
6. Parliament and the Crown.
7. Puritan and Cavalier.
8. The Civil War.
9. Oliver Cromwell.
10. The Restoration.
11. The Revolution of 1688.
12. England and Louis XIV.
13. Walpole and Wesley.
14. The founding of the Empire.
15. The Seven Years' War.
16. British politics and colonial policy.
17. The revolt of the Thirteen Colonies.
18. British expansion in India.
19. The economic revolution.
20. The French Revolution.
21. The rise of Napoleon Bonaparte.
22. England and Napoleon.
23. The struggle for reform.
24. Political and economic questions.
25. British empire in India.
26. The colonial empire.
27. Character of English history.

Wednesday, 4:00–5:00 p. m., at the Walnut Hills Branch Library.
First meeting, October 5, 1910.

PHILOSOPHY.

THE WORLD'S DEBT TO GREEK THINKERS.

(Course 137.)

by

GUY ALLEN TAWNEY, Ph. D.,
Professor of Philosophy.

"Except the blind forces of nature, nothing moves in this world that is not Greek in its origin."—Sir Henry Maine.

1. The ages of the intellect and outline.
2. Origin of Greek civilization.
3. One of the seven wise men.
4. The fluid world of Heracleitus.
5. The world as number and space.
6. Pythagorean modernness.
7. The static world of Xenophanes.
8. Empedocles, the founder of physics.
9. The blind world and the world as purpose.
10. Life and times of Socrates.
11. Teachings of Socrates.
12. The man Plato.
13. Plato's idea as embodied in the Republic.
14. Plato's moral philosophy—readings.
15. Aristotle's life and library.
16. The controversy between Plato and Aristotle.
17. Aristotle's view of nature.
18. Aristotle's politics and ethics.
19. Aristotle's view of the individual man.
20. Stoicism as a doctrine of life and society.
21. Stoicism as a doctrine of the world as a whole.
22. Epicureanism as a world-view.
23. The sciences after the time of Aristotle.
24. The Greek sceptics.
25. The Greek sceptics in modern agnosticism.
26. Greek theology.
27. The Greek at Alexandria.
28. The debt of Christendom to Greece.

Thursday, 4:00–5:00 p. m., at the Avondale School. First meeting, October 6, 1910.

This course will be repeated at the Clifton School if a sufficient attendance is assured.

LIST OF STUDENTS IN EXTERNAL CLASSES

1909-10.

Ach, Laurence. . . . . 817 Walnut St.
Adams, Meda . . . . . Latonia, Ky.
Adler, Benjamin . . . . . 2836 Stanton Ave.
Ambrose, Mary . . . . . 1303 Holman Ave., Covington, Ky.
Anderson, Druzilla . . . . . East Side Terrace, Hyde Park
Andrew, Mrs. Agnes. . . . . 3600 Shaw Ave.
Andrew, Agnes . . . . . 3600 Shaw Ave.
Andrew, Ellen . . . . . 3600 Shaw Ave.
Armstrong, Anna V. . . . . 2113 Fulton Ave.
Armstrong, Matilda . . . . . 2113 Fulton Ave.
Ashbach, Rose E. . . . . 2943 Sidney Ave.
Atkins, Mary. . . . . 814 Scott St., Covington, Ky.
Bagby, Nannie L. . . . . 33 Grand Ave., Covington, Ky.
Baker, Gladys . . . . . Reading Road
Balke, Mrs. G. R. . . . . 3722 Clifton Ave.
Ballauf, Estelle E. . . . . 3535 Mooney Ave.
Ball, Kathryn F. . . . . Simpson St., Madisonville, O.
Bandle, Emma. . . . . 308 Thornton St.
Baumann, Emil. . . . . Lane Seminary, Walnut Hills
Bayer, Christina . . . . . 2517 Stanton Ave.
Bechman, Bertha . . . . . 3144 Vine St.
Bechman, Mrs. Ida E. . . . . 3689 Alaska Ave.
Bechman, Pauline. . . . . 3144 Vine St.
Bell, Maggie E. . . . . 2815 Park Ave.
Berndt, Emily. . . . . 1415 Elm St.
Bernhardt, Alice . . . . . 740 Scott St., Covington, Ky.
Bernheim, Emily. . . . . 2241 Kemper Lane
Bettman, Mrs. Henry W. . . . . Bogart Ave.
Bettmann, Alfred . . . . . 31 Navarre Bldg.
Bettmann, Mrs. Alfred . . . . . 31 Navarre Bldg.
Biere, Julian. . . . . 132 W. Court St.
Bilger, Matilda . . . . . Ring Place, Price Hill
Bing, Blanche L. . . . . 421 Forest Ave.
Bishop, Elizabeth H. . . . . 1322 McMillan St.
Bleska, Josephine A. . . . . 932 Clinton St.
Bloch, Jennie . . . . . 29 Alexandra, Walnut Hills
Bloom, Alma . . . . . 533 Rockdale Ave.
Bloom, Rosalie J. . . . . 3589 Bogart Ave.

Bond, Isabel.....1900 Hopkins Ave., Norwood, O.
Bonney, Caroline E.....1027 Scott St., Covington, Ky.
Book, Dorothy.....4719 Beech St., Madisonville, O.
Brach, Marie.....2265 Vine St.
Brakensick, Leonore.....1610 Sycamore St.
Bratt, Mary C.....3414 Burnet Ave.
Brawley, Anne M.....933 Clinton St.
Brennan, Ida.....292 W. Fifth St., Covington, Ky.
Brennan, Rose.....292 W. Fifth St., Covington, Ky.
Brickman, Amelia C.....4346 Langland St.
Brogan, Emma.....Bella Vista Pl.
Brooks, C. J.....2314 Madison Ave., Norwood, O.
Browder, Lillian.....4719 Beech Ave., Madisonville, O.
Brunson, Mary.....Madisonville, O.
Brunswick, J. M.....2331 Park Ave.
Buchwalter, Louise.....2315 Reading Rd.
Buechlers, Richard.....Westwood, O.
Buerger, Rosa W.....2343 Wheeler St.
Burdge, Alice V.....1626 Chase Ave.
Burgess, Edna.....3609 McCormick Pl.
Burghardt, F. K.....103 Juergens Ave.
Burke, Alma.....1155 Park Ave.
Burland, Anna C.....120 Mulberry St.
Bussing, Stella R.....1371 Myrtle Ave.
Cain, Mary E.....1043 Ann St., Newport, Ky.
Callahan, Katherine.....1212 Russell Ave.
Campbell, Sallie J.....1853 Walker St.
Canfield, Perry.....1706 Greenup St., Covington, Ky.
Cantor, Evelyn.....18 Landon Court
Carmichael, May H.....2326 Grandview Ave.
Carpenter, Julia W.....Park Ave.
Carpenter, Lily F.....2535 Park Ave.
Carroll, Mollie.....1503 Bremen St.
Cist, Fannie.....4800 Hamilton Ave.
Clark, Louise A.....1136 Sherman Ave.
Clemen, Charlotte.....2603 Dennis St.
Cochnower, May C.....Deventer Bldg.
Cochran, Mrs. L.....1047 Russell St.
Conley, Mary.....2108 Fulton Ave.
Conrad, Emily.....1421 Chase Ave.
Cookhill, Sarah.....1917 Crown Ave., Norwood, O.
Cordesman, Ida L.....3475 Harvey Ave.
Cornelius, Charles.....3010 Cleinview Ave.
Cox, Alice.....Madisonville, O.
Coyne, Ella.....Pleasant Ridge, O.
Crane, F. E.....3643 McCormick Pl.

Cranston, Lydia .....Ellison Ave., Mt. Lookout
Crockett, Etta. .....1518 Banklick St., Covington, Ky.
Crosweller, Ada. .....143 W. Sixth St., Covington, Ky.
Crowley, Esther M. .....2509 Stanton Ave.
Crugar, Frances.....Madisonville, O.
Culberton, Grace.....The Thayer.
Cumming, Dora .....711 Monroe St.
Cundy, Thessie .....915 Rogers Pl.
Curth, Amanda .....378 Terrace Ave.
Daily, Grace M. .....726 Garrard St., Covington, Ky.
Dann, Emma B. .....Madisonville, O.
Dann, Helen .....Madisonville, O.
Dauman, Doea .....Madison Rd., Oakley, O.
Decker, Edna M. .....830 Main St., Covington, Ky.
Dehner, Angela. .....3208 Beresford Ave.
Demmin, Amelia. .....122 Greenup St., Covington, Ky.
Devou, Alice L. .....2320 Harper Ave.
Dickore, Marie P. .....3530 Beechmont Ave.
Dickson, Kate. .....Latonia, Ky.
Diem, Mrs. M. M. .....Glenway, Ave.
Dienst, Ernestine .....Mt. Healthy, O.
Dietz, Lina V. .....4024 Huston Ave., Norwood, O.
Diserens, Alice. .....2711 Price Ave.
Doepke, Anna C. .....Reading Rd.
Donnelly, Mary D. .....518 Crescent Ave., Covington, Ky.
Drake, Charlotte. .....Newtown, O.
Dressel, E. .....245 Lorain Ave.
Driggs, Eloise P. .....102 E. Lynn St., Covington, Ky.
Dryer, Mrs. Adolfe. .....3457 Harvey Ave.
Duncan, Nora .....Latonia, Ky.
Dunlap, Marie B. .....916 Beech Ave., Latonia, Ky.
Eckerman, Adelaide. .....2669 Bellevue Ave.
Egelston, H. Chick .....2459 Madison Ave., Covington, Ky.
Eger, Alfred .....1814 Fairfax Ave.
Eichenlaub, Minnie .....2715 Euclid Ave.
Eichler, Emil W. .....901 Paradrome St.
Eichner, Marie .....599 Terrace Ave.
Ellis, E. E. .....2402 Ashland Ave.
Elmes, Elsie J. T. .....816 York St., Newport, Ky.
Engelke, Anna. .....419 Dorchester Ave.
Engelke, Frieda. .....419 Dorchester Ave.
Eppens, Bernadine .....1823 Chase Ave.
Erdelmeier, Helen. .....1078 Wade St.
Erlwein, Anna. .....6710 Poplar St., Madisonville, O.
Evans, Elizabeth. .....104 W. Ninth St.
Evans, Frances .....2004 Garrard St., Covington, Ky.

Everett, Grace. ... 1366 Scott St., Covington, Ky.
Fagin, Edna L. ... 1667 Bruce Ave.
Fennell, Emma G. ... Monmouth St., Newport, Ky.
Fettweis, Celia ... Mt. Healthy, O.
Fettweis, Elsie. ... Mt. Healthy, O.
Fick, Alma S. ... 1828 Fairfax Ave.
Fischer, Bertha ... Auburndale, Mt. Auburn
Fitzgerald, Anna L. ... 3207 Glendora Ave.
Flaherty, Mrs. M. E. ... Rose Ann Flats
Flinchbaugh, Fred ... 3780 Clifton Ave.
Forster, Bertha ... 241 Hosea Ave.
Fox, N. Helen ... 2864 May St.
Fox, Kathryn ... 311 Overton St., Newport, Ky.
Foy, Mary ... 2917 Eastern Ave.
Franklin, Virginia ... Highlands, Ky.
French, Fannie ... 25 E. Ninth St., Covington, Ky.
French, Florence ... 2444 Observatory Rd.
Frick, Emma R. ... 4414 Ashland Ave.
Friedlander, Mrs. Alfred ... 643 Forest Ave.
Fugate, Anna S. ... Pike St., Covington, Ky.
Fugate, Chiles. ... De Coursey Ave., Covington, Ky.
Furness, Mary B. ... The Wilhelm
Geier, Mrs. Fred A. ... 2301 Grandview Ave.
Geoghegan, Mary. ... 2108 Fulton Ave.
Gerhard, Alice M. ... 18 W. Ninth St., Covington, Ky.
Gibson, Bertha ... 2126 Auburn Ave.
Gilmartin, Mary. ... 501 Crescent Ave., Covington, Ky.
Goettheim, Helen ... 52 Graham St.
Goldberg, Cecilia ... 616 Shillito St.
Goldsmith, Helen E. ... 3225 Harvey Ave.
Grabfield, Mrs. G. ... 3556 Alaska Ave.
Gray, Nellie ... 3778 Liston Ave.
Grebner, Elsa ... 247 Albion Pl.
Grebner, O. W. ... 121 St. Clair St.
Grebner, Paula ... 247 Albion Pl.
Greiwe, Mrs. J. E. ... The Auburndale
Griese, Anna M. ... 754 Clinton St.
Griess, Ella M. ... 21 Garfield Pl.
Griffing, Amelia. ... 94 E. Second St., Covington, Ky.
Grunkmyer, Sadie. ... 429 Russell Ave., Covington, Ky.
Guerin, Belle ... 1050 Scott St.
Haas, Eleanor P. ... 431 Laurel St.
Hablitzel, Thekla ... 736 Scott St., Covington, Ky.
Hale, Florence ... 644 Sanford St., Covington, Ky.
Hall, Ella M. ... 4 Granda Bldg.
Hall, Mrs. Eulalie. ... 751 Forest Ave.

Hall, Ida H. ..... 2513 Auburn Ave.
Hall, Mrs. L. W. ..... 1580 Dixmont Ave.
Hall, Viola ..... 37 Mitchell Pl.
Halsey, Abigail ..... 953 Burton Ave.
Harper, Grace M. ..... 29 W. Tenth St., Newport, Ky.
Harrison, Effie. ..... 605 E. Ninth St., Newport, Ky.
Hegeman, Alma ..... 313 Webster St.
Hegner, Lyda E. ..... 3161 Harvey Ave.
Henley, Fannie ..... Mann Pl.
Herbrick, Josephine ..... 431 Laurel St.
Herbst, Eva ..... 1308 Locust St.
Herman, Edna. ..... Eleventh and York Sts., Newport, Ky.
Hermann, Katie C. ..... 335 Milton St.
Hibbard, Laura ..... The Nelson
Hier, Ethel. ..... Madisonville, O.
Hier, Stella. ..... Madisonville, O.
Hildreth, Harriet ..... 1853 Hewitt Ave.
Hobson, Mary A. ..... 814 Scott St., Covington, Ky.
Hochstetter, Agnes ..... Oak St.
Hochstetter, Johanna. ..... Oak St.
Hollaender, Emma ..... 2126 Ohio Ave.
Horst, Laura ..... 2032 Maple Ave., Norwood, O.
Horstman, Ida. ..... 1914 Crown Ave., Norwood, O.
Hottendorf, Elizabeth ..... 810 Richmond St.
Howard, Emma O. ..... 1563 Linn St.
Hughes, Emma ..... 4228 Dane Ave.
Huheey, Kate ..... Covington, Ky.
Hummel, Stella M. ..... 922 E. McMillan St.
Hutzler, Emma. ..... 3235 Bishop St.
Isham, Ida C. ..... 3458 Observatory Pl.
James, Sarah G. ..... 2351 Norwood Ave.
Jenert, Brunhild. ..... 22 E. McMillan St.
Jenert, Louise ..... 22 E. McMillan St.
Jewert, Winifred. ..... 541 Ridgeway Ave.
Johnson, Mrs. D. I. ..... Reading Rd.
Johnson, Helen ..... Mt. Washington, O.
Johnson, M. H. ..... 2116 Sterrett Ave., Covington, Ky.
Johnston, Mrs. Emma. ..... 66 Hollister St.
Johnston, J. B. ..... 1719 Hewitt Ave.
Jones, Mrs. Marion R. ..... Ft. Thomas, Ky.
Jones, Sarah. ..... 1718 Scott St., Covington, Ky.
Jones, Winifred. ..... Gwendolen Ave.
Jonson, Laura E. ..... 944 Elberon Ave.
Jonson, Mrs. S. J. ..... 745 N. Crescent Ave.
Joseph, Edna ..... 3010 Melrose Ave.
Kaiser, Mrs. A. J. ..... 525 Howell Ave.

Kasting, Caroline ..... 2811 Euclid Ave.
Keller, Frank J. ..... 237 Shillito St.
Kelley, Ada M. ..... 5537 Tompkins Ave.
Kelly, Elizabeth ..... 912 Mt. Hope Rd., Price Hill
Kelly, Gertrude. ..... 406 Philadelphia St., Covington, Ky.
Kelley, Nellie W. ..... 5537 Tompkins Ave.
Kelley, Ruth ..... Poplar St.
Kennedy, E. G. ..... 31 Main St., Covington, Ky.
Kennedy, Mary C. ..... 81 E. Tenth St., Covington, Ky.
Kennedy, R. M. ..... 3536 Zumstein Ave.
Kiester, M. I. ..... Plainville, O.
King, Cynthia. ..... Wallace Ave., Covington, Ky.
Kinney, Mrs. F. E. ..... 4247 Brookside Ave.
Klein, Blanche. ..... 766 Greenwood Ave.
Klein, Johanna ..... 2144 St. James Ave.
Knight, Anna M. ..... Madisonville, O.
Knight, D. Arthur ..... Madisonville, O.
Koch, Emma A. ..... 303 Rockdale Ave.
Kohler, Elizabeth ..... 2210 Slane Ave.
Kohler, Lili ..... Stanton Ave.
Kohler, Kathryn ..... 2210 Slane Ave.
Kramer, Emil ..... 1334 Broadway
Kramer, Helen ..... Forest and Alaska Aves.
Krohne, Minnie. ..... 927 Clark St.
Krohn, Mrs. I. M. ..... 1116 Cypress St.
Kruckemeyer, Dora ..... 2615 Euclid Ave.
Kruckemeyer, Johanna ..... 2615 Euclid Ave.
Kuhn, Mrs. Clarence ..... 3661 Washington Ave.
Kusterer, Pauline ..... 3545 Wilson Ave.
Lamarre, Louise ..... 1436 Woodward Ave.
Larimer, Edith ..... 262 Carrel St.
Lauer, Jenat ..... 3015 Bathgate St.
Lauer, Julian H. ..... 881 Lexington Ave.
Lautenschlager, Alma ..... 242 Shillito St.
Lautenschlager, M. R. ..... Covington, Ky.
Layman, Margaret E. ..... 1731 E. McMillan St.
Leach, Marion B. ..... 2621 Stanton Ave.
Leaman, Carrie. ..... 1335 Meier Ave.
Lehman, Alvin J. ..... 349 Forest Ave.
Le Voy, Frances ..... 3214 Hackberry St.
Liebing, Freda E. ..... 101 Goethe St.
Linhardt, Alma. ..... 245 Rochelle St.
Lipscombe, Chattie ..... Latonia, Ky.
Loeb, Elsa ..... 829 Rockdale Ave.
Lowman, Mrs. Edward ..... 715 Crescent Ave.
Lowman, Mrs. Leo J. ..... 668 Gholson Ave.

Luebbert, Mrs. L. R. ..... 589 Terrace Ave.
Lueders, Karl ..... 2427 Clifton Ave.
Lyon, Dora W. ..... 4249 Fergus St.
Lyons, M. Ethel ..... 7300 Overton St., Newport, Ky.
McArthur, Mrs. D. ..... 1803 Madison Ave., Covington, Ky.
McArthur, E. Susan. ..... 1803 Madison Ave., Covington, Ky.
McCarthy, Eleanor ..... Sixth St.
McClusky, Elizabeth ..... 414 Torrence Rd.
McCullagh, H. ..... 1351 Delta Ave.
McDonald, K. C. ..... 3556 Bevis Ave.
McDonald, Matie C. ..... 559 Mitchell Ave.
McDonald, Mrs. Ora ..... 3421 Clifton Ave.
McFarland, Rose ..... 3542 Shaw Ave., Hyde Park
McGinniss, Ida ..... 324 E. Fourth St., Newport, Ky.
McGuire, Camille. ..... 1626 Chase St.
McKinnie, J. H. ..... 3825 Eastern Ave.
McLeod, Donald W. ..... 3611 Michigan Ave.
McNamara, Florence. ..... 312 W. Seventh St.
McVean, Agnes ..... Spring Lake, Ky.
Mack, Mrs. C. E. ..... 3560 Washington Ave.
Mack, Mrs. M. E. ..... 3704 Reading Rd.
Madden, Fannie ..... 4703 Stewart Ave., Madisonville, O.
Maddux, William ..... 4745 Winton Rd.
Magnus, Kate A. ..... 3016 Fairfield Ave.
Marsh, Nellie. ..... 2260 Harper Ave.
Martin, Mae B. ..... 733 Garrard Ave., Covington, Ky.
Maxon, Margaret ..... 353 Bryant Ave.
Mayhew, Genevieve ..... 1527 Knox St.
Meier, Martha. ..... 275 Helen St.
Meier, Minnie ..... 599 Terrace Ave.
Meinhardt, Emma ..... 231 Calhoun St.
Melvin, H. E. ..... 3911 Columbia Ave.
Menderson, Bertha. ..... 3325 Burnet Ave.
Merrill, Julia ..... Bellevue, Ky.
Merryweather, Mary B. ..... 639 Forest Ave.
Metcalfe, Margaret ..... 734 Garrard Ave., Covington, Ky.
Metz, Elsie. ..... Melrose Ave.
Miller, Mrs. C. E. ..... 4 Bella Vista Pl.
Minning, Adelaide ..... 3131 Harvey Ave.
Minten, Elizabeth. ..... 2622 Auburn Ave.
Mittendorf, J. H. ..... 124 Hosea Ave.
Mittendorf, Mrs. R. ..... 124 Hosea Ave.
Moleux, Marie. ..... Madisonville, O.
Moorbrink, D. ..... 1501 E. McMillan St.
Moore, Mary F. ..... Bellevue, Ky.
Morehaus, Anna P. ..... Madisonville, O.

Mosler, Max ..... 708 Glenwood Ave.
Muehlbach, Phillip ..... 927 McPherson Ave.
Muehlbronner, Louise ..... 1059 Rittenhouse St.
Muehlbronner, Mary ..... 1059 Rittenhouse St.
Mueller, Elsa ..... 3718 Morris Pl.
Muhlhauser, Mrs. Albert ..... 106 Hosea Ave.
Mulholland, Ella M. ..... 1841 Josephine St.
Mulholland, Virginia ..... 1841 Josephine St.
Muller, Natalie ..... 3516 Shaw Ave.
Murphy, Ada M. ..... 241 E. University Ave.
Murphy, Alice ..... 2528 Hackberry St.
Murphy, Anna M. ..... 736 Scott St., Covington, Ky.
Murphy, Kate E. ..... 736 Scott St., Covington, Ky.
Myers, Irma ..... 1337 Burdett Ave.
Neeb, Mrs. C. E. ..... 1705 Sycamore St.
Nickel, Emma ..... 312 McGregor Ave.
Nickels, Alice ..... 1406 John St.
Nieman, Alma S. ..... 309 Mt. Hope Ave.
Noelcke, Augusta ..... 3212 Glendora Ave.
O'Connell, Eleanor C. ..... 1308 Broadway
O'Connor, Margaret E. ..... 1503 Greenup St., Covington, Ky.
O'Connor, Nellie ..... 215 Chestnut St., Newport, Ky.
Odlum, A. L. ..... 1504 Hapsburg St.
O'Donnell, Mrs. C. J. ..... 1626 Lingo St.
Ogden, Nannie F. ..... 1126 Vine St., Newport, Ky.
Olhaber, Virginia ..... 2809 Park Ave.
Ornstein, Bernice ..... 319 Rockdale Ave.
Orzali, May ..... 505 Russell Ave., Covington, Ky.
Owen, Mary T. ..... Latonia, Ky.
Owens, Sarah J. ..... 409 Milton St.
Parks, M. Effie ..... 2353 Kemper Lane
Perkins, Kathryn ..... Madisonville, O.
Perkins, W. Rhoads ..... Madisonville, O.
Perry, Katherine ..... Seventh and Overton Sts., Newport, Ky.
Pettit, Sarah ..... 1904 Greenup St., Covington, Ky.
Pfaffinger, Emma ..... 52 Graham St.
Pfeifer, Henrietta ..... 1120 Dayton St.
Plaut, Hilda ..... Forest and Burnet Aves.
Plaut, Irene L. ..... 774 Greenwood Ave.
Pollak, Mrs. B. E. ..... Beechwood Ave.
Powers, Fannie ..... 2028 Scott St., Covington, Ky.
Powers, J. P. ..... 205 Emma St.
Pownall, Martha C. ..... Loveland, O.
Puckett, S. D. ..... 1006 Yale Ave.
Pugh, Mahala ..... Ft. Mitchell, Ky.
Pyle, Elizabeth ..... 45 St. Louis St., Covington, Ky.

Rawlings, Sarepta A. ..... 806 Scott St., Covington, Ky.
Rawson, Mrs. Warren ..... 3791 Clifton Ave.
Reardon, Katherine L. ..... 32 W. Seventh St., Newport, Ky.
Rechtin, Estelle. ..... 3104 Gilbert Ave.
Reed, Ida. ..... Newport, Ky.
Rees, Eliza ..... 58 W. Third St., Covington, Ky.
Reilly, Emma ..... 453 Considine Ave.
Remley, Helen. ..... 853 E. Rockdale Ave.
Reszke, Max R. ..... 571 Howell Ave.
Reum, Emma ..... 2336 Wheeler St.
Richards, David S. ..... 309 W. Seventh St.
Richardson, Grace E. ..... 2484 Observatory Ave.
Rieman, Emma ..... 2217 Loth St.
Ries, Julia ..... Carthage, O.
Riesner, Anna ..... 2541 Westview Ave.
Riesner, Ida C. ..... 374 Terrace Ave.
Riley, Ada ..... 30 Albany Ave.
Riley, Katherine. ..... 30 Albany Ave.
Riley, Ruth ..... 1543 Greenup St., Covington, Ky.
Ringold, Emma. ..... Shillito Pl.
Roberts, Eleanor M. ..... 2514 May St.
Robinson, Laura L. ..... 4649 Hamilton Ave.
Robinson, Maude ..... Ft. Thomas, Ky.
Rodgers, Clara A. ..... 56 W. Third St.
Roetken, Emma L. ..... 72 E. Eleventh St., Covington, Ky.
Rogers, Charlotte ..... 917 Rogers Pl.
Romaine, C. M. ..... 3621 Columbia Ave.
Root, Katherine K. ..... 325 Broadway
Rosenthal, Julia ..... The Cavour
Rosenthal, Mrs. L. ..... 830 Hutchins Ave.
Ruby, Anna L. ..... Riverside
Runnells, A. L. ..... 724 Monroe St., Newport, Ky.
Runson, Anna H. .....
Rutenick, Clara. ..... Mt. Lookout
Ryan, Shirley ..... 4149 Langland St.
Sander, Mrs. A. H. ..... Maplewood Flats
Sanford, Helen R. ..... Madisonville, O.
Sanford, Lucile ..... 1603 Greenup St., Covington, Ky.
Saunders, Ida M. ..... 6 Beecher Bldg.
Schadell, E. J. ..... Nash and Van Dyke Aves.
Schell, Emma A. ..... 1536 Waverly Ave.
Schmidt, Clara ..... 247 Fosdick St.
Scholle, M. Edna ..... 2613 Cook St.
Schopp, Virginia ..... 302 Ludlow Ave.
Schrader, Helen. ..... 2442 Highland Ave.
Schubert, Martha M. ..... 1935 Langdon St.

Schultze, Mary M.....901 Scott St., Covington, Ky.
Schultz, Rosa.....Barclay Flats
Schultze, Mrs. W. F.....342 Bryant Ave.
Schute, Melane.....2916 Hackberry St.
Schwartz, Mrs. Albert.....540 Terrace Ave.
Schwarz, Lena.....752 E. McMillan St.
Schweikert, Mabel.....725 York St., Newport, Ky.
Secrest, Frances L.....215 Gilman St., Norwood, O.
See, Amy G.....Wyoming, O.
Seeman, Clara E.....618 Sanford St., Covington, Ky.
Selbert, Bertha.....3019 Jefferson Ave.
Senior, Clara.....Frances Lane
Senior, Mrs. Robert.....318 Rockdale Ave.
Shaffer, Annie.....Clinton Springs Ave.
Shaffer, Mrs. Frank.....Clinton Springs Ave.
Sharp M.....2056 Eastern Ave.
Shaw, Agnes J.....1550 St. Clair St.
Sheen, Cora D.....Burnet Ave. and Helen St.
Sheen, Mary B.....22 Barclay Flats
Sheerer, Nannie C.....The Arthur
Shine, Mary C.....806 Scott St., Covington, Ky.
Shumard, Lillie A.....Madisonville, O.
Siehl, Clara.....2431 McMicken Ave.
Silverman, Irma.....3565 Bogart Ave.
Simmons, Bertha E.....2627 Cleinview Ave.
Simpson, Mrs. John.....835 Blair Ave.
Smith, Ella.....311 Broadway
Smith, Emma B.....Southgate, Ky.
Smith, May.....Covington, Ky.
Smith, Ida T.....Madisonville, O.
Smith, Zella I.....244 Gilman Ave.
Snyder, Rebecca.....3213 Fredonia Ave.
Sowden, Elizabeth.....436 W. Fourth St., Covington, Ky.
Spangenberg, Agnes.....116 University Ave.
Speiser, Matilda.....1520 Baymiller St.
Spellmire, Mabel G.....2482 Observatory Ave.
Spielman, W. C.....Mooney Ave.
Spillard, Edna M.....2305 Nelson Ave.
Spillard, Sarah V.....2305 Nelson Ave.
Spilman, N. L.....Latonia Station, Covington, Ky.
Starr, Elizabeth.....284 McGregor Ave.
Staud, Marie.....2516 Ravine St.
Staudacher, Amalia.....1945 Maple Ave.
Stegner, Edith M.....2671 Bellevue Ave.
Stein, Helen L.....2833 Park Ave.
Sterne, Alice.....3632 Reading Rd.

Stewart, Emma C. ..... 3235 Beresford Ave.
Stix, Mrs. W. H. ..... 2359 Park Ave.
Stocker, Clara E. ..... 318 Stites Ave.
Strasser, Mary C. ..... 5742 Hamilton Ave.
Strauss, Albert ..... 6 Madrid Apartments
Strauss, Mrs. Albert ..... 6 Madrid Apartments
Stricker, Carrie L. ..... 811 York St., Newport, Ky.
Strobel, Mary D. ..... 4324 Lafayette Ave., Norwood, O.
Strobridge, L. B. ..... 746 Burton Ave.
Strong, Georgine L. ..... 253 Southern Ave.
Strubbe, F. W. ..... 2833 Winslow Ave.
Sullivan, Mary ..... 1215 Locust St.
Swift, Mrs. J. B. ..... 817 Hutchins St.
Swing, F. E. ..... 3651 Paxton Rd.
Symmes, Mrs. W. ..... 2620 Alms Pl.
Taube, W. H. ..... 3507 Bevis Ave.
Tearne, M. E. ..... 801 Scott St., Covington, Ky.
Thayer, W. W. ..... Norwood, O.
Theobald, Irma ..... 3027 Woodburn Ave.
Theurkopf, Cornelia ..... 2348 Ohio Ave.
Thompson, Matilda ..... 2357 Concord St.
Tinley, Marie ..... 601 Greenup St., Covington, Ky.
Toepfert, Ernest ..... 2222 St. James Ave.
Toepfert, Ida ..... 2222 St. James Ave.
Tozzer, Grace ..... 4155 Hamilton Ave.
Tozzer, Janie L. ..... 2410 Jefferson Ave.
Trost, Pearl ..... 319 Rockdale Ave.
Trounstein, Helen ..... Clinton Springs Ave.
Ulland, Mrs. W. T. ..... 529 Howell Ave.
Ullman, Adeline ..... 753 Crescent Ave.
Ullman, Terese ..... 753 Crescent Ave.
Ulm, Olive E. ..... Madisonville, O.
Ulrich, Julia ..... Norwood, O.
Vogel, L. ..... 508 Howell Ave.
Wachtel, Mrs. Rose ..... 3463 Harvey Ave.
Wald, Mrs. R. H. ..... 561 Hale Ave.
Walke, Matilda ..... 471 Riddle Rd.
Walker, Emma J. ..... 1559 Madison Ave., Covington, Ky.
Walker, Mary B. ..... 1559 Madison Ave., Covington, Ky.
Walsh, Jennie T. ..... 405 Fifth Ave., Dayton, Ky.
Walther, Louise ..... 2707 Vine St.
Warrington, Mary C. ..... 35 E. Fourth St., Covington, Ky.
Webb, Luella ..... 2339 Kemper Lane
Webb, Sallie H. ..... 2339 Kemper Lane
Weber, Clara B. ..... 4222 Hamilton Ave.

Weber, Mary B. ..... 1675 Chase St.
Weidgenant, Clotilda. ..... 923 Churchill Ave.
Weiskopf, Mrs. D. K. ..... 3548 Bogart Ave.
Weissleder, Anna M. ..... 2317 Nelson Ave.
Werner, Guido. ..... Ring Pl.
West, Augusta L. ..... 28 W. Fourth St., Newport, Ky.
Westheimer, Mrs. Leo ..... 529 Prospect Pl.
Wheeler, Ada. ..... The Nelson
Wheeler, Rachel ..... The Nelson
White, Mary M ..... 633 Monroe St., Newport, Ky.
Willenborg, Adolf ..... Webster School
Williams, Katherine M. ..... Winton Place
Williams, Sarah. ..... 1318 Burdette Ave.
Williamson, Althea ..... 48 Huntington Ave., Latonia, Ky.
Willis, Eugene W. ..... 809 Main St., Covington, Ky.
Wilson, Mattie F. ..... 2030 Scott St., Covington, Ky.
Wilson, Maud E. ..... 1725 Garrard St., Covington, Ky.
Wilson, T. T. ..... 1909 Greenup St., Covington, Ky.
Wilts, Lou E. ..... 337 Milton St.
Windisch, Mrs. Chas. F. ..... Clifton and Bryant Aves.
Winkelman, E. ..... Cleves, O.
Winkelman, Ida W. ..... 460 Warner St.
Winkler, Florence. ..... Washington Ave.
Wolf, C. M ..... 4285 Brookside Ave.
Wolfe, Anna L. ..... Covington, Ky.
Wolfe, Laura ..... Covington, Ky.
Woods, Belle ..... 2156 Sinton Ave.
Woodward, Amelia E. ..... Hotel Auburn
Woolman, Mima E. ..... 2303 Park Ave.
Worthington, Louise ..... Frances Lane, Walnut Hills
Young, Cora A. ..... 5 Alexandra Flats
Young, M. Louise. ..... 92 Martin St., Covington, Ky.
Zerfass, K. B. ..... 1430 California Ave.
Zeuner, Lina ..... 45 W. St. Clair St.
Zimmerman, Anna ..... 2512 Harris Ave., Norwood, O.
Zimpleman, Mary M. ..... 3590 Eden Ave.
Zimplemann, F. ..... 3541 Purdue St.
Zinck, Anna ..... 2171 Bernard St.

Total 535

University of Cincinnati Record

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ANNOUNCEMENT OF THE

McMicken College of Liberal Arts

1910-1911

PUBLISHED BY THE UNIVERSITY OF CINCINNATI,
AT THE UNIVERSITY PRESS,
BURNET WOODS, CINCINNATI, OHIO.

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THE UNIVERSITY OF CINCINNATI

COMPRISES THE FOLLOWING DEPARTMENTS:

I.
THE GRADUATE SCHOOL.

II.
THE McMICKEN COLLEGE OF LIBERAL ARTS.

III.
THE COLLEGE FOR TEACHERS.

IV.
THE COLLEGE OF ENGINEERING.
(Mechanical, Electrical, Civil, and Chemical Engineering.)

V.
THE COLLEGE OF LAW.
(The Cincinnati Law School.)

VI.
THE OHIO-MIAMI MEDICAL COLLEGE.
(The Ohio and the Miami Medical Colleges united.)

VII.
THE DEPARTMENT OF CLINICAL MEDICINE.
(The Clinical and Pathological School of the Cincinnati Hospital, Affiliated.)

For the special announcements of the various departments and further information, address:

THE SECRETARY OF THE UNIVERSITY,
CINCINNATI, OHIO.

OFFICERS OF ADMINISTRATION OF THE McMICKEN COLLEGE OF LIBERAL ARTS.

President of the University:
CHARLES WILLIAM DABNEY, Ph. D., LL. D.
Room No. 10, McMicken Hall.

Dean of the College of Liberal Arts:
LOUIS TRENCHARD MORE, Ph. D. Room No. 5, McMicken Hall.

Dean of Women:
EMILIE WATTS McVEA, A. M. Room No. 12, McMicken Hall.

Director of the Observatory:
JERMAIN G. PORTER, Ph. D. The Observatory, Mt. Lookout.

Director of School Affiliation:
FRANK W. BALLOU, A. M. Room No. 2, McMicken Hall.

Director of Music:
EDWIN W. GLOVER. McMicken Hall.

Director of Physical Education:
ALFRED BRODBECK. McMicken Hall.

Secretary of the University:
DANIEL LAURENCE, B. S. Room No. 6, McMicken Hall.

Librarian of the University:
CHARLES ALBERT READ, A. B. Van Wormer Library Building.

Registrar:
LELIA AMANDA GARVIN, B. L. Room No. 7, McMicken Hall.

McMICKEN COLLEGE OF LIBERAL ARTS.

CALENDAR 1910—1911.

1910.

Sept. 19, Monday - Sept. 24, Saturday:
Entrance examinations.

September 22, Thursday:
First day of registration.

September 24, Saturday:
Last day of registration.

September 26, Monday:
First semester begins.

Nov. 24, Thursday - Nov. 26, Saturday:
Thanksgiving recess.

December 22, Thursday, 8:30 a. m.:
Christmas vacation begins.

1911.

January 2, Monday:
Work resumed.

Jan. 23, Monday - Jan. 28, Saturday:
First semester examinations;
Entrance examinations.

January 28, Saturday:
First semester ends.

January 30, Monday:
Registration day for second semester.

January 31, Tuesday:
Second semester begins.

GENERAL INFORMATION.

FOUNDATION.

On his death, in 1858, Charles McMicken gave to the city of Cincinnati by will almost the whole of his estate, valued at about $1,000,000, for the purpose of establishing and maintaining "two colleges for the education of white boys and girls."

He had "long cherished the desire to found an institution where white boys and girls might be taught not only a knowledge of their duties to their Creator and their fellow men, but also receive the benefit of a sound, thorough and practical English education, and such as might fit them for the active duties of life, as well as instruction in the higher branches of knowledge, except denominational theology, to the extent that the same are now or may hereafter be taught in any of the secular colleges or universities of the highest grade in the country."

Nearly half of the property devised by Mr. McMicken was situated in the state of Louisiana. This was entirely lost, in 1860, by a decision of the Supreme Court of that state, annulling that part of the devise. The court refused to recognize the validity of bequests of real estate to institutions controlled by non-resident trustees upon perpetual trusts. The remainder of the property, lying in Cincinnati and its vicinity, did not yield a sufficient income to warrant the establishment of the proposed colleges. For ten years, therefore, the revenue derived from the estate was applied to its improvement.

In 1869 the trustees provided for a School of Design, which they maintained, with aid from Joseph Longworth, until 1884, when they transferred it to the Cincinnati Museum Association. Meanwhile an attempt was made to unite the various educational trusts in Cincinnati. To this end, in 1870, the General Assembly of Ohio passed an act "to aid and promote education," under which, almost a year later, the University of Cincinnati was established. Bonds were soon issued by the city to provide funds for the erection of a suitable building, which was ready for use in the fall of 1875. But students were received in 1873, and instruction was given temporarily by the teachers of Woodward High School. In 1874 the Academic Department, now known as the McMicken College of Liberal Arts, was organized by the appointment of three professors and two instructors, who met classes during that year in a school building on Franklin Street.

The effort to unite other trust funds with those given by Charles McMicken having failed, the income remained long inadequate to the needs of such an institution as he had intended to found. At length the city undertook to support the University

in part by public taxation, the tax for this purpose being limited at first to three-tenths of one mill. In the course of time additional funds for the maintenance of the institution were provided by individual citizens, the most important being the bequest of property, valued at $130,000, by Matthew Thoms in 1890, the gift of $100,000 by David Sinton in 1899, and the recent bequest of Mary P. and Eliza O. Ropes, of Salem, Massachusetts, amounting to $100,000, for the endowment of a chair of Comparative Literature, as a memorial to their father, Nathaniel Ropes, for many years a citizen of Cincinnati.

New departments were also added. In 1872 the Cincinnati Astronomical Society (founded in 1842) transferred its property on Mt. Adams to the city, which agreed, as a condition of the gift, to sustain, in connection with the University, on a new site provided by John Kilgour, an Observatory,* to be built with funds given by him. In 1896 the Medical College of Ohio (founded in 1819) became the College of Medicine of the University, though still retaining its original title conjointly with its new one. In 1908 an invitation was extended to the Miami Medical College to become a department of the University. In accordance with this invitation the Miami Medical College and the Medical College of Ohio (the College of Medicine of the University) have recently been united into a single medical department, known as "The Ohio-Miami Medical College of the University of Cincinnati." In 1896 a Law Department was established, and six professors of law were appointed, who gave instruction at first in rooms on Fourth Street. But, in 1897, by a contract with the Law School of the Cincinnati College (founded in 1833), a union was effected. The College of Law of the University was to be known as the Cincinnati Law School, and the degree of Bachelor of Laws was to be conferred by the concurrent action of the Board of Directors of the University and the Trustees of the Cincinnati College.

Out of a professorship of Civil Engineering in the College of Liberal Arts has developed the College of Engineering. It was organized under that name in 1900, and became a distinct department in 1904.

Since its organization, in 1887, the Clinical and Pathological School of the Cincinnati Hospital has been affiliated with the University, being designated as the Medical Department, until 1896, and afterwards as the Department of Clinical Medicine.

The College for Teachers was organized in 1905, in cooperation with the Board of Education of the City of Cincinnati. In 1906 the Graduate School was separated from the McMicken College of Liberal Arts and a distinct organization with a dean at its head

*For this purpose the city levies annually a special tax of one-twentieth of one mill.

effected. In the same year the General Assembly of Ohio authorized the levying of an increased municipal tax for the University —five-tenths of a mill, instead of three-tenths as before.

BUILDINGS AND SITE.

From 1875 to 1895 the Academic Department occupied the building erected on the grounds of the McMicken homestead, as required by the will of the founder. This site proving altogether unsatisfactory, application was made to the courts for permission to remove to a more suitable location in Burnet Woods Park. The desired permission having been granted by the court of last resort in March, 1893, steps were immediately taken for the construction of a main building, called McMicken Hall, which was completed in two years. This building stands on high ground at the southern end of the park, forty-three acres having been set apart as a site for the University. During 1895-96 the north wing, known as Hanna Hall, was built for the departments of Chemistry and Engineering, with funds amounting to about $70,000, provided by Henry Hanna. The south wing, called Cunningham Hall, was built in 1898-99 by Briggs S. Cunningham, at a cost of $60,000. This wing is occupied by the departments of Physics and Biology. The Van Wormer Library, costing about $60,000, the gift of Asa Van Wormer, was built during 1898-1900. The Technical School building, erected in 1901, has been completely remodeled as the Engineering Annex. The Observatory, built in 1873 with $10,000 given by John Kilgour, stands on Mt. Lookout, at a distance of several miles from the other University buildings. A smaller structure, the O. M. Mitchel Building, was added in 1904 to house the old telescope. Since 1896 the building on the McMicken homestead site has been used by the College of Medicine. A Dispensary, erected in that year, is situated on the lower part of the grounds. The College of Law, on Ninth Street, occupies a new building, which was completed in 1902 at a cost of $65,000. In August, 1909, the Council of the City of Cincinnati authorized the issue of bonds in the amount of $550,000 for the erection of the following additional buildings in Burnet Woods, and their equipment: an Engineering College building, a heat, light and power plant, and a gymnasium building; and steps are now being taken toward their immediate construction.

BENEFACTORS OF THE UNIVERSITY.

Besides those whose names have already been mentioned, the following persons have contributed to the endowment or to the equipment of the University: William A. Procter, Rev. Samuel J. Browne, William J. Odell, Julius Dexter, Frank J. Jones, Judge Moses F. Wilson, Eugene F. Bliss, Dr. James T. Whittaker, Mrs.

William E. Merrill, Theodore A. Bruehl, Andrew Hickenlooper, Christian Moerlein, Laura Seasongood, Lewis Seasongood, S. Lilienthal, Mrs. Nannie Fechheimer, A. G. Wetherby, Charles F. Windisch, C. T. Webber, Rev. P. Robertson, the Lane & Bodley Company, James E. Mooney, John Kilgour, Charles Kilgour, C. H. Krippendorf, Julius Fleischmann, Lucien Wulsin, Samuel Pogue, Professor Edward Miles Brown, Dr. Nathaniel Pendleton Dandridge, Mrs. Howard Breen, Mr. Robert Hochstetter, the alumni of the University, and others.

ENDOWMENT FUND ASSOCIATION.

The Endowment Fund Association of the University of Cincinnati was incorporated on April 21, 1905, by a number of prominent citizens of the municipality. The purpose of the corporation, as stated in its Code of Regulations, is "to secure property, including money, or the income from the same, for the use of the University of Cincinnati, and for that purpose to solicit, collect, accept, hold, manage, invest, or pay over such property, money, or income, whether such property, money, or income arises by way of gift, devise, or purchase, for the benefit of said University." Its affairs are managed by a Board of Trustees consisting of nine members. The officers of the Endowment Fund Association are:

Rufus B. Smith, President.
Jacob G. Schmidlapp, Vice-President.
Charles F. Windisch, Treasurer.
Howard C. Hollister, Secretary.

BENEFACTIONS.

For the guidance of those who may wish, during life or by bequest, to make benefactions to the University, the following information is given:

Form of Bequest to University of Cincinnati:—

I bequeath and devise to the City of Cincinnati as Trustee for the University of Cincinnati, to hold in trust forever for said University, the following property:.....

Form of Bequest to the Endowment Fund Association:—

I bequeath and devise to the Endowment Fund Association of the University of Cincinnati, for the use of the University of Cincinnati, the following property:.....

The sum of one hundred and fifty thousand dollars would erect a section of a Natural History Museum.

The sum of one hundred thousand dollars is the amount necessary to found a full professorship in any one of the departments. The donor has the privilege of naming the professorship.

Fifty thousand dollars would be required for a dormitory, and the contributor of such a sum would be privileged to name the

building. There is nothing which the University needs more than a dormitory system.

Twenty thousand dollars endows an instructorship in a department. The donor has the right to name it.

Ten thousand dollars is the principal required to establish a fellowship in any one of the departments; the income being paid to the fellow, who devotes his time to original research combined with a little teaching.

Three thousand dollars endows a free scholarship, the income from this sum remitting all fees and giving the donor the right during life to nominate to the scholarship, subject to the rules of the University.

The President of the University would be glad to give full information upon any questions relating to foundations to any person or persons who may desire more detailed knowledge.

THE UNIVERSITY LIBRARY.

The Van Wormer Library Building is of stone, fire-proof throughout, and is built in accordance with the most approved modern plans of library construction. The rooms have been furnished by the University with heavy tables and desks of quartered oak.

The University Library, in this building, contains about 55,000 volumes and 8,800 pamphlets. In the Reference Room about 2,000 volumes are arranged on open shelves, to which the students have free access. The Periodical Room contains the current numbers of 300 periodicals. The Library is provided with a card catalogue of its own books, and also with card catalogues of the books in the Public Library of Cincinnati and in the Library of the Historical and Philosophical Society of Ohio. It is open every week day from 8 a. m. to 5 p. m.

The Library contains some valuable special collections:

The Robert Clarke Library, comprising 6,761 volumes, was given by William A. Procter. This collection is especially rich in Americana, and contains some rare first editions.

The Enoch T. Carson Shakespeare Library, 1,420 volumes, was also given by William A. Procter.

The Bruehl Library, of about 2,000 volumes, contains many rare and valuable works on the history, archæology, and ethnology of Mexico and Central America. This collection was made by Dr. Gustav Bruehl, and presented to the Library by Mr. Theodore A. Bruehl.

The Wilson Library, consisting mainly of works of literature and criticism, in English, French, and Italian, 810 volumes, was given by Judge Moses F. Wilson.

The Merrill Library of engineering works, 870 volumes, 478 pamphlets, and 185 maps, charts and photo-lithographs, was given by Mrs. William E. Merrill.

The Whittaker Medical Library, the bequest of Dr. James T. Whittaker to the Medical College of Ohio, comprises 1,547 volumes and 538 pamphlets.

The Thoms Library, miscellaneous works, was part of the bequest of the late Matthew Thoms.

The Laura Seasongood Alcove contains books purchased annually from the proceeds of an endowment provided in 1894 by the will of the late Laura Seasongood.

The Brown Philological Library, containing the English philological library of the late Professor Edward Miles Brown and presented to the University by Mrs. Edward Miles Brown, consists of 318 bound volumes, 51 unbound volumes, and 83 pamphlets.

The Charlotte Hillebrand Memorial Library consists of French and German books, purchased from the proceeds of an endowment recently established in memory of the late Charlotte Hillebrand.

The Library of the American Association for the Advancement of Science has been placed under the charge of the University of Cincinnati, by the terms of an agreement with the Association, entered into on September 14, 1895. This collection consists at present of 5,600 volumes, for the most part periodical publications of foreign scientific societies.

The Historical and Philosophical Society of Ohio has deposited its valuable collections of books, pamphlets, and other articles in the Van Wormer Library of the University. This library comprises over 23,000 volumes and 68,000 pamphlets, pertaining chiefly to the history of the Ohio Valley, and contains valuable collections of original letters and other manuscripts.

The total number of books in the Van Wormer Library Building is about 84,000 volumes and 77,000 pamphlets.

To these collections must be added the libraries of departments of the University, situated in other parts of the city. These are:

The Library of the Observatory	3,500 volumes
The Library of the College of Law	11,000 volumes
The Library of the College of Medicine	3,000 volumes
The Library of the Cincinnati Hospital	18,309 volumes
Total	35,809 volumes

The libraries of the University, then, taken altogether, but excluding those of the Historical and Philosophical Society of Ohio and the American Association for the Advancement of Science, contain 90,809 volumes and 8,800 pamphlets.

The Public Library, of 438,767 volumes; the Mercantile Library, containing about 76,000 books; and the Lloyd Library and Museum, consisting chiefly of scientific works, as well as those of the Lane Theological Seminary, the Hebrew Union College, the Art Museum, and the College of Music, are open to University students.

UNIVERSITY PUBLICATIONS.

The University publishes the following periodicals at the University Press:

The University of Cincinnati Record,

Published monthly, from October to June inclusive. Its numbers include

The Annual Catalogue.
The Announcement of the Graduate School.
The Announcement of the McMicken College of Liberal Arts.
The Announcement of the College for Teachers.
The Announcement of the College of Engineering.
The Announcement of the College of Law.
The Announcement of the College of Medicine.
The President's Annual Report,

and other pamphlets of special information. Any number of the *Record* will be sent free of charge upon application to the Secretary of the University.

The University Studies,

Issued bi-monthly, is a scholarly publication, containing the results of research by members of the faculty or by other persons connected with the University of Cincinnati.

A price list of the literary and scientific publications of the University may be had by addressing the Office of the Press.

LABORATORIES.

The laboratory facilities offered in Botany, Zoology, Physiology, Histology, Physics, Chemistry, Psychology, Geology, and in the Engineering departments are equaled by few institutions in the West. The industries of the city afford abundant opportunity for the observation of the most recent scientific processes applied to manufacturing.

MUSEUMS.

The Museum of Natural History is located on the fourth floor of McMicken Hall, and consists of a number of geological and biological collections. Among others are specimens donated from the Zoological Garden from time to time; the Balke natural history collections, consisting chiefly of mammals, birds, and insects; the Huntington collection of shells; the Fillmore and Schneider collection of Philippine relics; the Fechheimer collection of igneous rocks; the Wetherby collection of rocks and

minerals; and lastly, a series of specimens illustrating the chemical industries. The department of Geology and Geography has also on exhibition a part of its working collections of maps, models, minerals, rocks and fossils. Among recent valuable additions are the Carl Holmes collection of Greenland birds, permanently loaned by Dr. and Mrs. C. R. Holmes; donations by Mr. E. Meyer and Dr. Arch. I. Carson; and several group mounts of large animals by the Custodian of the Museum. A skillful collector and taxidermist is at present engaged in completing collections of local material.

The Greek Room contains reproductions of the most noted works of Greek art. There were added to this collection recently a cast of Michel Angelo's "Twilight," the Praxitelean "Diana of Gabii," "Ajax," "Hector and Andromache," "Venus de Medici," "The Boy and Goose," "Psyche of Capua," "Diana of Versailles," and "Hero." Two additional statues (Minerva Giustiniani and the Lateran Sophocles) have been installed in the main corridor of McMicken Hall. These, together with the large carbon pictures of the Parthenon, Erechtheum, Acropolis, Corinth, and Paestum in the same hall, form a valuable adjunct to the collection of casts in the Art room.

Students of the classics and of industrial art derive much profit from the collections of the Cincinnati Art Museum; the Museum of the Society of Natural History and the Zoological Garden are utilized extensively for practical instruction in biological science; the Indian remains and mounds near the city are important for the study of archæology and history. Courses in schools of music and fine art, for which Cincinnati is noted, are frequently combined with University work.

SCHOLARSHIPS AND PRIZES.

In 1899 the old Endowment Fund Association, composed of the alumni of the University, established the Cornelius George Comegys Scholarship, with a stipend of fifty dollars, which is awarded annually to a meritorious undergraduate.

The five McMicken Honorary Scholarships are awarded annually to the five Juniors who have the best scholastic standing, according to the records in the Registrar's office.

The twelve Thoms Honorary Scholarships are awarded annually to the six Sophomores and the six Freshmen who have the best scholastic records.

In 1892 Honorable Frank J. Jones founded a prize of forty dollars, which is awarded annually to that member of the Senior class in the College of Liberal Arts who writes and pronounces the best English oration. The subjects are chosen by the Dean and the Chairman of the Board of Directors. A committee con-

sisting of three citizens of Cincinnati is appointed by the Chairman of the Board of Directors to judge the contest.

In 1901 Major Jones founded a second prize of twenty dollars, which is awarded to that member of the Senior class whose oration is judged by the committee to be second in merit. Both these prizes are permanently endowed.

In 1908, by a provision of the will of the late Professor Edward Miles Brown, a prize of fifty dollars, known as the "Edward Miles Brown Prize for Excellence in English," was established. This prize is awarded to that member of the Senior class who has attained during the four years' undergraduate course the highest excellence in English.

In 1909 Mr. Robert Hochstetter established the Henry Hochstetter Prize in Chemistry, in memory of his brother, Henry Hochstetter. This prize is to be awarded annually for the best graduating thesis in Chemistry, and is open to both students of Liberal Arts and Engineering. The successful candidate is nominated by a committee consisting of the head of the department of Chemistry and two members of the Cincinnati Section of the American Chemical Society.

For the fellowships, scholarships, and prizes of the various colleges, consult their several announcements.

THE TEACHERS' UNIVERSITY CLUB OF NATURAL HISTORY.

The Cincinnati Teachers' Club of Natural History is the outgrowth of the biological work done in the University during the year 1900-1901 by teachers in the schools of Cincinnati and of adjoining towns. It is a permanent organization, and constitutes a valuable adjunct to the regular class instruction in the University for those who wish to become familiar with work in the field, and to acquire facility in presenting the facts of nature at first hand. The club consists of active members only, and membership is restricted to persons who have done accredited work in Natural History in an approved institution of learning, or who have shown decided ability as teachers or investigators in some branch of Natural History.

Provision has been made whereby high school clubs and nonresident Natural History organizations may enter into affilation with the University Club. Upon acceptance of their application, the society concerned is given a certificate of affiliation, and is recommended to appoint one or more delegates to attend the meetings of the Central Club at the University. Such delegates may be admitted as bona fide members of the University Club of Natural History, provided the maximum limit of membership (fifty) is not thereby exceeded. A general meeting of all affiliated organizations is held at the University in June of each year.

THE ALLIANCE FRANÇAISE.

The Alliance Française, a national association, officially recognized by a decree of the President of the French Republic, October 23, 1886, aims to promote the study of the French language and literature in foreign lands.

The Cincinnati branch of the Alliance Française, in cooperation with the University of Cincinnati, has arranged for a number of lectures to be given during the year by some of the most eminent French writers of the day. To these lectures students at the University of Cincinnati are admitted by season tickets free of charge.

In 1904 the Alliance Française of Cincinnati established a Scholarship of $300 in the University, to be awarded to the student showing the greatest proficiency in French. The successful candidate is required to attend the summer course of instruction given by the Alliance Française in Paris.

THE UNIVERSITY SETTLEMENT.

The Settlement conducted by the University of Cincinnati was organized in the year 1899. In May of that year a Settlement Association was formed, and in September a house, situated on Liberty and Plum Streets, in one of the most densely populated districts in Cincinnati, was opened, and at present is in full operation.

This house has become the social and educational headquarters of the neighborhood, and is frequented by the people from the surrounding tenement houses. A competent head-resident, ably seconded by his wife, directs the work. Various clubs are led by volunteer workers from the University and city and enjoy the social and educational privileges of the Settlement. Some of the features of the Settlement are a gymnasium, a circulating library, a reading room, a savings bank, and a lecture and entertainment course. It has, besides, a large sewing-school and several cooking-classes. A clinic is conducted each afternoon and a district nurse gives her whole time to the neighborhood work. Thus it furnishes an excellent experiment station for those who wish to do work in practical sociology. Students of the three upper classes doing regular work at the Settlement are given credit by the department of Political and Social Science.

This work is under the supervision of a Board of Directors, upon which serve representatives from the Faculty of the McMicken College of Liberal Arts, from the Alumnal Association, from the students of the University, and from business men of the city.

STUDENT ORGANIZATIONS AND PUBLICATIONS.

The students of the University have established a large number of organizations which are in flourishing condition. The Speakers' Club, an oratorical and debating society, is composed entirely of young men. The Debating Association of the University, including both young men and young women, arranges each year two or more debates with other institutions. The young women of the College of Liberal Arts have a Literary Society of their own, with its alumnal chapter, while the French Club and the German Club are open to men and women alike. There are two Glee Clubs, one for men, the other for women. Other student organizations are the Chemists' Club and the Chemical Journal Club, devoted to the interests of chemistry; the Economics Club; the Graduate Club, which is an organization of the students of the Graduate School, devoted to the encouragement of higher learning and research; the English Club, made up of advanced students in English; the Education Club, composed of the graduates of the College for Teachers; the Meliorist Club, organized for the investigation of social problems; and the History Club, recently formed for the discussion of historical questions. The Blue Hydra is a permanent organization devoted to the study of biology. Its membership is restricted, and new members are chosen each year from the best students of that subject in the Freshman class. The Academic Club is made up of the men of the College of Liberal Arts. The Engineers' Club includes the upper classmen of the College of Engineering, while the Student Branch of the American Institute of Electrical Engineering is composed of the advanced students in electrical engineering. In addition, there are tribunals in the several colleges for student self-government. A branch of the College Equal Suffrage League has recently been established in the University. Besides these organizations, there is the University Club, composed of representatives from the student clubs, the fraternities, and the four classes, the object of which is the promotion of the general welfare of the University.

The University annual, *The Cincinnatian*, is edited and published by the members of the Junior class. The *University Weekly News*, the official student paper, is issued every week during the University year by a student board of editors.

RELIGIOUS INFLUENCES IN THE UNIVERSITY.

The University is a public institution and is in no sense denominational. Yet a course in the Bible forms part of the curriculum. The teaching of the Bible is expressly called for by the will of Charles McMicken, but with this proviso, that denominational theology shall not be taught.

The Y. M. C. A. and the Y. W. C. A. of the University are allowed the free use of rooms in McMicken Hall in which to hold their meetings.

ATHLETICS.

Athletics are so controlled in the University that they play an important part in the college life of the student without seriously conflicting with the interest in class-room work.

Three hours' work each week in physical education is prescribed for the members of the Freshman class, and two hours for those of the Sophomore class, except students giving part of their time to professional studies. With them participation is voluntary. A physical examination of each student is made at the beginning and at the close of the session. This gymnasium work is designed to secure three main objects: health and organic vigor, bodily control and efficiency, erect carriage and symmetrical development. A large part of the work is done out of doors during good weather, and such games as football, base-ball, basketball, tennis and track athletics are a part of the students' training. Lessons in boxing, wrestling, and fencing are also given to students interested in this form of exercise.

All athletics and gymnastics are in charge of the Director of Physical Education and his assistants.

THE ATHLETIC FIELD.

A much-needed Athletic Field has recently been provided, and its equipment is nearing completion. When finished it will be one of the best college athletic fields in the country. One end has a base-ball diamond, the other a foot-ball gridiron. The track is one-fourth mile, built of cinder, with deep foundation. A straight-away one hundred and twenty yards, sixteen feet wide, extends in front of the new grand stand. The proximity of this field to the gymnasium makes it a particularly valuable addition to the athletic equipment of the University. Its location between three hill-tops, which form a natural amphitheater, affords opportunity for thousands of people to view the games.

PHYSICAL TRAINING FOR WOMEN.

A special instructor has charge of the work in Physical Training for young women, which is required during the Freshman and Sophomore years. The work in the gymnasium is supplemented during the fall and spring with outdoor games.

REQUIREMENTS FOR ADMISSION AND FEES.

Detailed statements regarding the requirements for admission and the fees of the various colleges of the University may be found in their several announcements. Any further information desired may be had by addressing the Secretary of the University.

EXPENSES.

	Graduate School, Liberal Arts, or College for Teachers	Engineering	Law	Medicine
Tuition Fees - - -	$75 00	$75 00	$100 00	$125 00
Library Fees - - -	5 00	5 00	.....	.....
Matriculation, payable but once - -	.....	.....	.....	$5 00
Laboratory Fees - -	*	$35 to 45	.....	.....
Books - - - - - -	$20 to 25	$25 to 30	$40 to 50	$45 to 60
Board and Room - -	$4 to $7 a week	$4 to $7 a week	$4 to $7 a week	$4 to $7 a week
Total Expense per year - - - - -	$325 to $450	$350 to $450	$350 to $500	$375 to $500

The Secretary of the University will furnish information regarding suitable boarding places in the vicinity of the University. The Secretary will also make every effort to secure employment in the city for students who desire to support themselves either wholly or in part while attending the University.

* Laboratory fees vary according to the courses taken.

McMICKEN COLLEGE OF LIBERAL ARTS.

FACULTY AND INSTRUCTORS.

CHARLES WILLIAM DABNEY, Ph. D., LL. D., President of the University.

JERMAIN GILDERSLEEVE PORTER, Ph. D., Director of the Observatory and Professor of Astronomy.

FREDERICK CHARLES HICKS, Ph. D., Sinton Professor of Economics and Civics.

HARRIS HANCOCK, Ph. D., Dr. Sc., Professor of Mathematics.

*JOHN MILLER BURNAM, Ph. D., Professor of Latin.

MAX POLL, Ph. D., Professor of the Germanic Languages.

JOSEPH EDWARD HARRY, Ph. D., Professor of Greek.

MERRICK WHITCOMB, Ph. D., Professor of History.

LOUIS TRENCHARD MORE, Ph. D., Professor of Physics and Dean of the McMicken College of Liberal Arts.

MICHAEL FREDERIC GUYER, Ph. D., Professor of Zoology.

BURTIS BURR BREESE, Ph. D., Professor of Psychology.

STEPHEN ELMER SLOCUM, Ph. D., Professor of Applied Mathematics.

NEVIN MELANCTHON FENNEMAN, Ph. D., Professor of Geology and Geography.

LAUDER WILLIAM JONES, Ph. D., Professor of Chemistry.

ROBERT CLARKSON BROOKS, Ph. D., Professor of Political Science.

GUY ALLAN TAWNEY, Ph. D., Professor of Philosophy.

FRANK WADLEIGH CHANDLER, Ph. D., Professor of English and Ropes Professor of Comparative Literature.

PHILLIP OGDEN, Ph. D., Professor of Romance Languages.

GEORGE MOREY MILLER, A. M., Associate Professor of English.

HARRIS MILLER BENEDICT, A. M., Associate Professor of Biology.

JAMES EDMUND IVES, Ph. D., Associate Professor of Physics.

CLAUDE M. LOTSPEICH, Ph. D., Assistant Professor of German.

*Absent on leave in Europe, 1910-1911.

EMILIE WATTS McVEA, A. M., Assistant Professor of English and Dean of Women.

GEORGE HENRY ALLEN, Ph. D., Assistant Professor of Latin. (In charge, 1910-11.)

ISAAC JOSLIN COX, Ph. D., Assistant Professor of History.

HARRY SHIPLEY FRY, Ph. D., Assistant Professor of Chemistry.

GEORGE WALLACE UMPHREY, Ph. D., Assistant Professor of Romance Languages.

JOHN JERMAIN PORTER, A. B., Assistant Professor of Metallurgy.

CHARLES NAPOLEON MOORE, Ph. D., Assistant Professor of Mathematics.

SAMUEL JAMES McINTOSH ALLEN, Ph. D., Assistant Professor of Physics.

MAX HENRY GOETTSCH, Ph. D., Assistant Professor of Industrial Chemistry.

BENJAMIN CARLTON VAN WYE, A. M., Assistant Professor of Public Speaking and English.

————, Acting Assistant Professor of Latin.

ALFRED BRODBECK, Director of Physical Education.

FLORENCE CAMERON LAWLER, B. S., Instructor in Mathematics.

ARTHUR JAMES KINSELLA, A. M., Instructor in Greek.

ELSE SCHRADER, A. M., Instructor in German.

ELIZABETH MERRILL, Ph. D., Instructor in English.

JOSEPH HENRY KINDLE, A. M., Instructor in Mathematics.

CLYDE WILLIAM PARK, A. M., Instructor in English.

HARRY LEWIS WIEMAN, Ph. D., Instructor in Biology.

JAMES FRANCIS DILWORTH, A. M., Instructor in English History.

TAYLOR SCOTT CARTER, Ph. D., Instructor in Physics.

MURRELL EDWARDS, A. B., Instructor in Physical Education.

J. ERNEST CARMAN, B. S., Instructor in Geology.

JAMES ROLF TRIMBLE, A. B., Instructor in Mathematics.

BISHOP PLATT EVENS, Mechanician and Instructor in Laboratory Arts.

————, Instructor in Chemistry.

CORA MAY BOX, A. M., Assistant in Biology.

ELLEN ELIZABETH KIELY, A. M., Assistant in Romance Languages.

LOUIS ARYAH LURIE, A. B., Assistant in Psychology.

ALFRED SMITH, A. B., Assistant in Chemistry.

LEON DENNING PEASLEE, A. M., Assistant in Zoology.

————, Assistant in Chemistry.

EDWARD G. RIEMAN, A. B., Hanna Fellow in Physics.

H. DORA STECKER, Colonial Dames Fellow in Ohio Valley History.

VERNON LANTIS, A. B., Teaching Fellow in Botany.

EMMA ANDRIESSEN, A. B., Graduate Assistant in German.

CHARLES HECKER, Ch. E., Graduate Assistant in Chemistry.

EDWARD STURTEVANT HATHAWAY, A. B., Graduate Assistant in Biology.

OTTO VON SCHLICHTEN, Student Assistant in Chemistry.

EDWARD J. LORENZ, Student Assistant in Physics.

————, Student Assistant in Chemistry.

REQUIREMENTS FOR ADMISSION TO THE McMICKEN COLLEGE OF LIBERAL ARTS.

Candidates for admission as undergraduates must be at least sixteen years of age. They must give evidence of having completed satisfactorily an amount of preparatory study represented by sixteen units, a unit being understood to mean one of the subjects in the following table pursued for one full year of five recitation periods each week. Of these sixteen units every candidate for admission to the McMicken College of Liberal Arts must present the following:

English—Three units, in which there can be no "condition."

Mathematics.—One unit in Algebra and one unit in Plane Geometry.

History—One unit.

Language—Three units, from the five languages: Latin, Greek, French, German, Spanish; two units must be in the same language. Candidates who intend to pursue the study of Latin in the University must present four units in Latin.

In addition to these fixed requirements, the candidate must offer a number of units selected from the list of subjects below, sufficient, with the units specified above, to amount to a total of sixteen. The number of units that may be offered in any subject is shown in the following table:

NUMBER OF UNITS ACCEPTED FOR ADMISSION.

	Minimum.		Maximum.
English	3	required	or 4
Latin	1	Three units required, two of which must be in one language.	or 2 or 3 or 4
Greek	1		or 2 or 3
French	1		or 2 or 3 or 4
German	1		or 2 or 3 or 4
Spanish	1		or 2
General History	1	One unit required.	1
Ancient	½		or 1
Mediaeval and Modern	1		1
English	½		or 1
American	½		or 1
American and Civics	1		1
Algebra	1	required	or 1½ or 2
Geometry, Plane	1	required	or 1
Geometry, Solid	½		or ½
Trigonometry	½		or 1
Civics	½		½
Physics	1		1
Chemistry	1		1
*Zoology	1		1
*Botany	1		1
Physical Geography	½		or 1
Astronomy	½		½
Geology	½		½
Drawing	1		2
Manual Training	1		2
Domestic Science	1		4

ENTRANCE CONDITIONS.

Students who are deficient in not more than two units of the sixteen required for admission may be admitted conditionally to the College of Liberal Arts. All such entrance conditions must be removed before the student is allowed to register at the beginning of his second year of residence at the University.

ENTRANCE EXAMINATIONS.

Examinations for admission will be held on September 19, 20, 21, 22, 23, 24, 1910. In 1911 they will be held on January 23, 24, 25, 26, 27, 28, and on May 22, 23, 24, 25, 26, 27, according to the schedule below.

Students who desire to take these examinations must obtain permission beforehand from the Director of School Affiliation. All applications for permission to take the entrance examinations should be made at least two days before the first day of the examination period. Some of the examinations may be taken in the spring and the remainder in the fall, if so desired. Students who

*One-half unit will be allowed in Zoology and one-half unit in Botany when hese two subjects are presented together as one unit in the same year.

apply for entrance examinations at times other than the days specified will be charged a fee of five dollars.

A candidate for admission to the University, coming from one of the accredited schools, who is not a graduate of such school, will not be admitted to the entrance examinations within one year after leaving such preparatory school, unless recommended for examination by the principal of the school from which he comes.

Students intending to take these entrance examinations should consult the statement of the entrance requirements, as printed on a preceding page, and arrange to take their examinations

(*a*) in the fixed requirements, and

(*b*) in enough additional subjects to make a total of sixteen units.

The work covered by each unit or group of units in the various subjects may be found on the following pages. Specimen entrance examination questions will be furnished free of charge on application to the Director of School Affiliation.

SCHEDULE OF ENTRANCE EXAMINATIONS.

September 19, 1910: January 23 and May 22, 1911:

8:30–11:00	English	3 units
11:00–12:00	English	1 unit additional
1:00– 3:00	Physics	1 unit
3:00– 4:00	Solid Geometry	½ unit
4:00– 5:00	Physical Geography	½ or 1 unit

September 20, 1910; January 24 and May 23, 1911:

8:30–10:30	Latin	1 or 2 units
10:30–12:00	Latin	1 or 2 units additional
1:00– 3:00	Chemistry	1 unit
3:00– 4:00	Astronomy	½ unit
4:00– 5:00	Civics	½ unit

September 21, 1910; January 25 and May 24, 1911:

8:30–10:30	French	1 or 2 units
10:30–12:00	French	1 or 2 units additional
1:00– 2:30	Plane Geometry	1 unit
2:30– 4:00	Algebra	1 unit
4:00– 5:00	Advanced Algebra	½ or 1 unit additional

September 22, 1910; January 26 and May 25, 1911:

8:30– 9:30	Ancient History	½ or 1 unit
9:30–10:30	American History	½ or 1 unit
10:30–12:00	General or Medieval and Modern History	1 unit
1:00– 2:00	English History	½ or 1 unit
2:00– 3:00	American History and Civics	1 unit
3:00– 5:00	Spanish	2 units

September 23, 1910; January 27 and May 26, 1911:

8:30–10:30.....German .....1 or 2 units
10:30–12:00.....German .....1 or 2 units additional
1:00– 3:00.....Zoology.....½ or 1 unit
3:00– 5:00.....Botany.....½ or 1 unit

September 24, 1910; January 28 and May 27, 1911:

8:30–10:30.....Greek.....1 or 2 units
10:30–11:30.....Greek.....1 unit additional
11:30–12:00.....Drawing .....1 unit
1:00– 2:00.....Trigonometry .....½ or 1 unit
2:00– 4:00.....Geology .....½ unit
4:00– 5:00.....Manual Training.....4 units
4:00– 5:00.....Domestic Science.....4 units

DEFINITION OF UNITS.

Detailed statements showing the exact amount of work required for each unit or group of units in the various subjects are here presented:

ENGLISH COMPOSITION AND LITERATURE.

I. Three units. The preparation should include the following subjects:

Composition.—There should be practice in writing at regular and frequent intervals throughout all the years of the preparatory course. Essays and short themes should be carefully corrected by the teacher and often rewritten by the student. Subjects should be drawn both from the observation and experience of the student and from literature. Special attention should be given to the proper structure of sentences and paragraphs, and the method of planning or outlining an essay.

Grammar.—It is expected that the applicant will be familiar with the essentials of English grammar, and will be able to explain the construction of sentences that occur in the classics he has read.

English Classics.—The following books are recommended for reading and study, 1910-11.

For Reading.—Group I (two to be selected); Shakspere's *As You Like It, Henry the Fifth, Julius Caesar, The Merchant of Venice, Twelfth Night.* Group II (one to be selected): Bacon's *Essays*, Bunyan's *Pilgrim's Progress*, Part I; The Sir Roger de Coverley Papers in the *Spectator;* Franklin's *Autobiography.* Group III (one to be selected): Chaucer's *Prologue;* Spenser's *Faerie Queene* (selections); Pope's *Rape of the Lock;* Goldsmith's *Deserted Village;* Palgrave's *Golden Treasury* (first series), Books II and III, with special attention to Dryden,

Collins, Gray, Cowper, and Burns. Group IV (two to be selected): Goldsmith's *Vicar of Wakefield;* Scott's *Ivanhoe* and *Quentin Durward;* Hawthorne's *House of the Seven Gables;* Thackeray's *Henry Esmond;* Mrs. Gaskell's *Cranford;* Dickens's *Tale of Two Cities;* George Eliot's *Silas Marner;* Blackmore's *Lorna Doone.* Group V (two to be selected): Irving's *Sketch Book;* Lamb's *Essays of Elia;* De Quincy's *Joan of Arc* and *The English Mail Coach;* Carlyle's *Heroes and Hero Worship;* Emerson's *Essays* (selected); Ruskin's *Sesame and Lilies.* Group VI (two to be selected): Coleridge's *Ancient Mariner;* Scott's *Lady of the Lake;* Byron's *Mazeppa* and *The Prisoner of Chillon;* Palgrave's *Golden Treasury* (first series), Book IV, with especial attention to Wordsworth, Keats, and Shelley; Macaulay's *Lays of Ancient Rome;* Poe's Poems; Lowell's *Vision of Sir Launfal;* Arnold's *Sohrab and Rustum;* Longfellow's *Courtship of Miles Standish;* Tennyson's *Gareth and Lynette, Lancelot and Elaine,* and *The Passing of Arthur;* Browning's *Cavalier Tunes, The Lost Leader, How They Brought the Good News from Ghent to Aix, Evelyn Hope, Home Thoughts from Abroad, Home Thoughts from the Sea, Incident of the French Camp, The Boy and the Angel, One Word More, Hervé Riel,* and *Pheidippides.*

For Study and Practice.—Shakspere's *Macbeth;* Milton's *Lycidas, Comus, L'Allegro* and *Il Penseroso;* Burke's *Speech on Conciliation with America,* or both Washington's *Farewell Address* and Webster's *First Bunker Hill Oration;* Macaulay's *Life of Johnson,* or Carlyle's *Essay on Burns.*

Equivalents for these books will be accepted, but in general it is expected that the applicant's preparation will have included the reading of the books in this list. All the books should be read with care and appreciation, but particular attention should be given, with regard to form, structure, and style, to those intended for study and practice. In addition, the student should have some definite knowledge of the lives of the authors read and of the history of their times.

The committing to memory of fine passages from the English Classics is a practice much to be commended and should regularly form part of the exercises of the preparatory course.

II. Four units. For four units in English composition and literature the preparation should extend throughout the four years of the high school course. Besides the subjects mentioned above, the applicant should have studied the outlines of English literary history. His study should be based upon one of the recent manuals of English literature, the study of the text being accompanied by as much reading as possible of representative authors.

The applicant for admission by examination must be prepared to answer questions on the fundamental principles of composition and English grammar, on the books studied and on the lives of their authors; to write a short descriptive, narrative, expository, or argumentative essay on a subject suggested by his own experience or observation, and an essay of not less than three hundred words on a subject drawn from the books read. The spelling, punctuation, and use of capitals in these essays must be correct, the words chosen with discrimination, and the sentences and paragraphs clear and well ordered.

The applicant for four units must be prepared to answer, in addition, questions in the history of English literature.

LATIN.

I. **First unit.**—The student should have digested some Beginner's Book like that of Coy, or Collar and Daniel.

II. **Second unit.**—Caesar's *Gallic War*, Books I-IV, or an equivalent amount selected from the remaining portions of that work. It is expected that in the first year's preparation the student has mastered the declensions, comparisons, and verbal inflections, knows the leading rules of syntax, and possesses some vocabulary. Along with Caesar there should be some exercise in Latin Composition, a wider and deeper acquaintance with grammatical principles of the language, and a good vocabulary. Sallust's *Catiline* or an equivalent amount of the *Jugurtha* may be substituted for two books of Caesar. It is furthermore suggested that the teacher, if possible, vary the Caesar lessons by selections from Books V-VII.

III. **Third unit.**—Cicero, *In Catilinam*, I-IV, and *Pro Archia*, with more practice in composition. It is also preferred that the student should study an additional oration or short treatise, e. g., *de Amicitia*, or selections from the *Letters*. He should also begin the practice of writing continuous prose.

IV. **Fourth unit.**—Vergil's *Aeneid*, I-VI, with scanning and prosody. An equivalent amount of verse from *Aeneid*, VII-XII, or Ovid will be accepted in place of *Aeneid*, III and V. If circumstances permit, it is very advantageous to let Ovid precede Vergil. It is preferable that the composition done during this year be based on Cicero.

GREEK.

I. **First unit.**—White's *Beginner's Book* or an equivalent. Grammar and composition work.

II. **Second unit.**—Xenophon's *Anabasis*, Books I and II. Grammar and composition work.

III. Third unit.—In addition to the work outlined in paragraphs I and II, the following:

Xenophon, *Anabasis*, Books III and IV.

Homer, *Iliad*, Books I-III.

Composition.

Grammar: Babbitt, Goodell, Goodwin, or Hadley-Allen.

FRENCH.

I. One unit:

(*a*) The translation at sight of very simple French prose.

(*b*) The translation into French of easy sentences to test the candidate's familiarity with elementary grammar.

(*c*) One full year of five periods a week is necessary to meet the requirements in one unit. The first one hundred and fifty pages in Fraser and Squair's *French Grammar* may be taken as a standard of the amount of grammar which should be covered during that period. Due attention should be given to pronunciation and dictation.

II. Two units:

(*a*) The translation at sight of ordinary nineteenth century prose. The passages set for translation must be rendered into clear and idiomatic English.

(*b*) A test of the candidate's knowledge of the regular verbs; the auxiliaries être, avoir; the more frequent irregular verbs, such as aller, envoyer, venir, devoir, pouvoir, vouloir, savoir, voir, dire, lire, écrire, faire, croire, boire, mettre, prendre, and the typical verbs partir, conduire, craindre, paraître.

(*c*) The translation into French of simple sentences to test the candidate's familiarity with elementary grammar.

Two full years of five periods a week are necessary to meet the requirements in two units. Edgren's *French Grammar*, complete, may be taken as a standard of the amount of grammar which should be covered during that period. Not less than three hundred duodecimo pages should be read from the works of at least three different authors. Suitable texts for these two units are: *Le Siège de Berlin* and *La Dernière Classe*, Daudet; *La Mère Sauvage*, Maupassant; *Le Tour de la France*, Bruno; *Le Petit Chose*, Daudet; *Sans Famille*, Malot; *La Tache du Petit Pierre*, Mairet; *La Poudre aux Yeux*, Labiche et Martin; *Le Voyage de M. Perrichon*, Labiche et Martin; *La Cigale chez les Fourmis*, Legouvé et Labiche.

Due attention should be given to pronunciation, conversation, and dictation.

III. Three units. A continuation for one year of work just outlined. The candidate should be able to read at sight ordinary

French prose or simple poetry, to translate into French easy English prose, to answer questions involving a more thorough knowledge of the essentials of French syntax, especially the ordinary uses of tenses and modes. It is expected that the candidate for three units will have worked through a grammar of moderate completeness and will have read five or six hundred pages of French during three years of five periods a week. Suitable texts for these three units are: the plays of Labiche, Scribe, etc.; *Gil Blas*, Lesage; *Le Tour de la France*, Bruno; *La Belle Nivernaise*, Daudet; *Les Fourberies de Scapin*, *Le Médicin Malgré Lui*, Molière; Voltaire's historical writings; *Le Cid*, Corneille; Coppée's poems, etc.

IV. Four units.

(*a*) The translation at sight of standard French. The passages set for translation must be rendered into clear and idiomatic English.

(*b*) A test of the candidate's knowledge of the irregular verbs and the essentials of French syntax, especially the uses of tenses, modes, prepositions, and conjunctions.

(*c*) The translation into French of a connected passage of English prose.

(*d*) The writing of a simple theme in French on a given topic.

Four full years in a good preparatory school are necessary to meet the requirements for four units. Not less than six hundred pages should be read from the works of at least five different authors. Suitable texts besides those given above, are *Colomba*, Mérimée; *La Mare au Diable*, Sand; *Pêcheur d' Islande*, Loti; *La Canne de Jonc*, Vigny; *Horace*, Corneille; *L' Avare* and *Le Bourgeois Gentilhomme*, Molière; *Esther*, Racine; *Le Gendre de M. Poirier*, Sandeau; *Récits des Temps Mérovingiens*, Thierry; *L' Expédition de Bonaparte en Egypte*, Thiers.

The student should have constant practice in giving paraphrases and abstracts. He should be trained to write French from dictation in order to enable him to understand lectures delivered in that language.

GERMAN.

I. One unit.

(*a*) The translation at sight of very simple German prose.

(*b*) The translation into German of easy sentences, to test the candidate's familiarity with elementary grammar.

The candidate ought to have read not less than one hundred pages of easy German, such as is found in Howell's or Harris's *German Reader*.

II. Two units.

(*a*) The translation at sight of simple German prose.

(*b*) The translation into German of easy connected prose, to test the candidate's familiarity with elementary grammar. The requirement in elementary grammar includes the conjugation of the weak and strong verbs; the declination of articles, adjectives, pronouns, and such nouns as are readily classified; the prepositions; the simpler uses of the modal auxiliaries; the elements of syntax, especially the rules governing the order of words.

The candidate ought to have read not less than two hundred pages of easy German, such as is found in Hewett's or Harris's *German Reader*.

In general, to obtain two units in German, two years' work in a good preparatory school is required.

III. Three units.

(*a*) The translation at sight of ordinary German.

(*b*) The translation into German of a connected passage of English prose, to test the candidate's familiarity with grammar.

The candidate ought to have read not less than four hundred pages of classical and contemporary prose and verse. It is recommended that the reading be selected from such works as Schiller's *Wilhelm Tell;* Lessing's *Minna von Barnhelm;* Goethe's *Hermann und Dorothea;* Wildenbruch's *Das edle Blut;* Fontane's *Vor dem Sturm;* Moser's *Kopnickerstrasse.*

Generally speaking, three years' work in a good preparatory school will be necessary in order to meet the requirements for three units.

IV. Four units.

(*a*) The translation at sight of ordinary German.

(*b*) The translation into German of a connected passage of English prose, to test the candidate's familiarity with grammar. The candidate will be expected to show a thorough knowledge of accidence, the principal uses of prepositions and conjunctions, and the essentials of syntax, especially the uses of the modal auxiliaries and of the subjunctive and infinitive modes.

The candidate ought to have read not less than six hundred pages of classical and contemporary prose and verse. It is recommended that the reading be selected from such works as Schiller's *Jungfrau von Orleans;* Goethe's *Iphigenie;* Freytag's *Die Journalisten, Soll und Haben, Bilder aus der deutschen Vergangenheit;* Kiehl's *Culturgeschichtliche Novellen.*

In general, to obtain four units in German, four years' work in a good preparatory school is required.

SPANISH.

I. One unit:

(*a*) The translation at sight of simple Spanish prose.

(*b*) The essentials of grammar, including the conjugations of the regular and the most frequently used irregular verbs. The translation into Spanish of short sentences, intended to test the candidate's knowledge of the essential points in grammar. Conversation and dictation.

In general, one year's work in a preparatory school, or its equivalent, is necessary to meet the requirements for one unit. The candidate will be expected to have worked through a short Spanish grammar, or the principal parts of a more complete one, and to have read at least one hundred pages of simple Spanish. Suitable texts for one unit are: *Spanish Reader*, Bronsby; *Victoria y Otros Cuentos*, Asensi; *Gil Blas*, Padre Isla; *El Pájaro Verde*, Valera; *O Locura o Santidád*, Echegaray; *Zaraguëta*, Carrión y Vital Aza; *El Clavo*, Alarcón; etc.

II. Two units:

In general, two years' work in a preparatory school, or its equivalent, will be needed to meet the requirements for two units. In addition to the work outlined in Paragraph I, the candidate will be expected to have worked through an elementary composition book and to have read from two to three hundred pages of modern Spanish. Suitable texts for the second unit are: *El Capitán Veneno*, Alarcón; *El Sí de las Niñas*, Moratín; *Doña Perfecta*, Galdós; *Guzmán el Bueno*, Gil y Zárate; *Cuentos Alegres*, Taboada; *Legends, Tales, and Poems*, Bécquer; *El Haz de Leña*, Nuñez de Arce; *José*, Valdés; etc.

MATHEMATICS.

I. Algebra. One unit. Definitions. Integral numbers. Rational numbers. Irrational numbers. The six fundamental operations of Algebra. Algebraic expressions. Rational Algebraic expressions. Application of the four fundamental operations to Rational Algebraic expressions. The use of parentheses. Especial emphasis given to working within the parentheses. Factoring, determination of highest common factor and lowest common multiple by factoring. Fractions, simple and complex. Simple equations, both numerical and literal, containing one or more unknown quantities. Systems of equations. Problems depending on linear equations. Involution and evolution of monomials and polynomials. Radicals, including rationalization. Exponents, including the fractional and negative. Imaginary quantities.

Elementary treatment of quadratic equations. The solution of simple problems in quadratic equations.*

II. Algebra. One and one-half units. In addition to Paragraph I, the following: The completion of quadratic equations, both numerical and literal. A standard form for the solutions of these equations. The discriminant condition for equal roots, real and imaginary roots. Relations among the roots and the coefficients of the equation. The nature of the roots when the different co-efficients approach zero. Simultaneous quadratic equations. Systems of equations, simple and quadratic. Property of quadratic surds and solution of equations containing radicals. Problems leading to quadratic equations. Ratio and proportion. The binomial theorem for positive integral exponents.

III. Algebra. Two units. In addition to the work outlined in Paragraphs I and II, the following: Convergence of infinite series. Binomial theorem with fractional or negative exponents. Exponential and logarithmic series. Formation of logarithms to base e, to base 10. Properties and application of logarithms. The progressions. Continued fractions.

IV. Plane Geometry. One unit. The work required in Plane Geometry is practically the equivalent of the first five books in Wells's, Sanders's, or Wentworth's Geometry. Emphasis should be given to the demonstration of original problems and the solution of original exercises, including loci problems. Application to the mensuration of lines and plane surfaces.

V. Solid Geometry. One-half unit. The usual theorems and constructions of good text-books. Emphasis should be given to the demonstration of original problems and the solution of original exercises, including loci problems. Application to the mensuration of surfaces and solids.

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*It is assumed that the pupils will be required throughout the course to solve numerous problems which involve putting questions into equations. Familiarity with the metric system is presupposed. Some of these problems should be chosen from mensuration, from physics and from commercial life. The use of graphic methods and illustrations, particularly in connection with the solution of equations, is also expected. On the other hand, the student must be guarded against the tendency to become mechanical in his algebraic work. Algebra is not to be used as a T-square. Above all the student should be thoroughly grounded in the fundamental principles, operations and definitions. It is recommended that Wells's Academic Algebra, Wentworth's Algebra, or an equivalent be used.

VI. Plane Trigonometry. One-half unit. Definitions and relations of the six trigonometric functions as ratios, *not* as lines. Circular measurement of angles. Proofs of principal formulas, in particular those for the sine, cosine and tangent of the sum and the difference of two angles, of the double angle and the half angle, the product expression for the sum or the difference of two sines or of two cosines, etc.; the transformation of trigonometric expressions by means of these formulas.

VII. Trigonometry. One unit. In addition to Paragraph VI, the following: Solutions of triangles, right-angled and oblique, requiring a knowledge of logarithms. Application to heights and distances. Demoivre's Theorem. Properties of spherical triangles. Formulas connecting the sides and angles of spherical triangles. Napier's Analogies. Gauss' Theorem. Solution of spherical triangles.

PHYSICS.

One unit. The candidate must be well prepared in the elementary theory of the subject and must present a note-book showing the quantitative work done by him in the laboratory.

The instruction in the class-room should include qualitative lecture-room experiments, the solution of numerous problems, and the study of some one standard text-book, such as Hoadley, Carhart and Chute, Gage's *Elements*, Wentworth and Hill, and Hall and Bergen.

Every candidate for admission on examination is required to present a laboratory note-book, signed by the teacher, containing the results of quantitative experiments performed by him in the laboratory. At least thirty quantitative experiments must have been performed, of which ten must be in mechanics, and which must also include three of the subjects, light, heat, electricity, and sound. The thirty experiments are to be selected from a list of sixty or more, which may be had by addressing the Secretary of the University. In general, the list follows that adopted by the National Educational Association, which may be found in *The Teaching of Chemistry and Physics*, Smith and Hall, Chapter X.

Laboratory note-books will be examined for neatness, language, accuracy, and proficiency in physics. They should be called for within one month after presentation.

CHEMISTRY.

One unit. The student's preparation should consist of an elementary course in chemistry (one year)* of the character taught in the better class of high schools. It should include:

*The course should cover from thirty-five to forty weeks, with four to five periods per week. Two hours of laboratory work count as one period of recitation.

(*a*) Individual laboratory work, to the extent of at least one-third of the time;

(*b*) Instruction by lecture table demonstration, to be used when expensive apparatus or superior skill in manipulation is indispensable;

(*c*) The study of at least one standard text-book, to the end that the pupil may gain a connected view of the subject.

Either in the class-room or by experimental treatment in the laboratory, the course should take up for consideration the important modes of occurrence, the principal methods of preparation, the essential physical and chemical properties, and the recognition of the elementary substances and their chief compounds, commonly considered in the standard text-books. More detailed study should be given to those of frequent occurrence, or of especial scientific importance.

The candidate should be able to state the significance of such commonly used terms as homogeneous body, solution, element, compound. By the use of definite examples, he should be able to show what kinds of facts have led to the formulation of such essential laws as the laws of definite and of multiple proportions, the law of combining weights, the laws of the expansion of gases, and the law of volumes of reacting gases.

He should be qualified to give a statement of the nature of the processes by the aid of which chemists determine equivalent weights, choose molecular weights, and select atomic weights; furthermore, to explain the significance of chemical symbols, and the manner of arriving at chemical formulæ (not graphic) after the necessary quantitive data are obtained in the laboratory.

Such terms as valence, acid, base, salt, neutralization, hydrolysis, oxidation, reduction, decomposition, dissociation, electrolysis, ionization, should have a meaning to the student, and he should be prepared to define them correctly at least by well chosen illustrations, if they can not be defined precisely by words.

At the time of and as part of the examination in chemistry, every student must present a note-book, containing a description of at least forty experiments. The note-book must include drawings of essential pieces of apparatus used, and an index of the experiments. For the list of experiments recommended, address the Secretary of the University. The laboratory note-book should be called for within one month after presentation.

Text-books recommended: McPherson and Henderson, Hessler and Smith, Newell, Bradbury, Remsen (Briefer Course), Torrey, and Story and Lindsay. Other texts than the one prescribed should be available to the student for reference. Ostwald's *Conversations on Chemistry* will be found stimulating and suggestive for collateral reading.

ZOOLOGY.

One unit. The candidate will be required to present his original note-book of practical laboratory study, together with the dates and the endorsement of his teacher, certifying that the book is a true record of the pupil's own work. The note-book should contain carefully labeled outline drawings of the chief structures studied in at least fifteen different animals, together with notes on the same. The note-book will be graded as one-third of the examination. The student will be expected to know the classification of animals into phyla and classes, and he must be able to state the chief characteristics and to compare the general life activities of examples of each of the principal classes. He must know the general plan of internal structure of one vertebrate (frog or fish) in general comparison with the human body; an arthropod (crustacean or insect); an annelid (earthworm or Nereis); a coelenterate (hydroid, hydra or sea-anemone); a protozoon (a ciliate and amoeba when possible). A mollusk (clam or mussel), an echinoderm or a second vertebrate may be substituted for any of the above types. A knowledge of the very general features of cell division, of the cellular nature of germ-cells, and the essentials of embryological development will be expected, as well as some understanding of the main facts involved in the struggle for existence, adaptation to environment, and variation of individuals.

Such books as Benedict's *Animal Adaptations*, Colton's *Descriptive and Practical Zoology*, Harvey's *Introduction to the Study of Zoology*, or Kingsley's *Comparative Zoology* cover this ground adequately. At least half of the student's work must have been laboratory work, guided by definite directions.

BOTANY.

One unit. A laboratory note-book containing drawings of the parts of two kinds of flowering plants, of a fern, moss, liverwort, toadstool, lichen, and mould, must be presented with the certificate of his teacher that it is the student's own work. The note-book will count for one-third of the work.

A knowledge of the names and distinguishing characteristics of the different phyla and the classes will be required, and the kind of alternation of generations found in the three highest phyla must be known. A general knowledge of the principal plant societies and the relation between their structures and environments, as well as an understanding of the adaptions by which the flowering plant does its necessary work are important requirements.

Bergen, Bessey, Atkinson, Caldwell, Coulter, and Leavitt are representatives of the type of elementary texts accorded recognition.

BOTANY AND ZOOLOGY.

One unit. A unit will be accepted only when Botany and Zoology have each been studied for half a year in one continuous course which extends throughout the year. Such a course will be reckoned as a one-unit course in Biology. A half year of one, independent of the other, will not be accepted. It is strongly recommended that the student devote an entire year to Botany, or to Zoology for one unit, instead of combining Botany and Zoology for a single unit.

At least half of the work must have been laboratory work guided by definite directions. A laboratory note-book containing drawings and observations upon at least ten kinds of animals (both vertebrate and invertebrate) and ten kinds of plants (both flowering and non-flowering) must be presented with the certificate of the teacher that it is the student's own work. The student will be required to answer in writing general questions upon familiar animals, such as the frog, fish, earthworm, paramoecium, cray fish, etc., and upon common plants, such as the fern, moss, mushroom and simple flowering plants. In both Botany and Zoology a knowledge of the names and distinguishing characteristics of the different phyla and their classes will be required. The note-book will count for one-third of the work.

PHYSICAL GEOGRAPHY.

One-half unit. The scope of the work required for one-half unit in Physical Geography is represented by the standard modern text-books, some of which are named below. This includes the earth as a whole, atmosphere, ocean and land, with special emphasis on the work of water on the land in making topographic features. Entrance examinations may include simple interpretations of topographic maps, weather maps, and such charts as are given in text-books, the pointing out of features of scientific importance in such pictures as are used in text-books, and simple demonstrations with globes.

Dryer, *Lessons in Physical Geography;* Tarr, *New Physical Geography;* Gilbert and Brigham, *Introduction to Physical Geography;* Davis, *Physical Geography;* Ward, *Practical Exercises in Elementary Meteorology;* and *Physiography of the United States* (10 National Geographic Monographs), are recommended as suitable texts.

One unit. For a sufficiently thorough and extended knowledge of the subject, and at the option of the examiner, a credit

of one unit may be given. Examinations for one unit's credit assumes a knowledge of the larger text-books, a greater familiarity with laboratory exercises, and such a knowledge of the United States as will enable the candidate readily to cite illustrations of all topographic forms.

ASTRONOMY.

One-half unit. The student should be familiar with:

(*a.*) Such fundamental notions and definitions as are necessary to locate celestial bodies.

(*b.*) The names and positions of the most conspicuous stars and constellations and be able to trace the positions of the ecliptic across the sky at certain times during the year.

(*c.*) The most important facts concerning the form, dimensions, mass, density, rotation and orbital motion of the earth, including seasons, tides, eclipses, and other dependent phenomena; also methods for determining the mass of the earth.

(*d.*) The essentials concerning the sun, moon, and planets, including methods for determining their respective distances, motions, etc.

(*e.*) The various hypotheses of the stellar universe and cosmogony.

Every student should visit a well-equipped observatory at least twice, once during the day to examine the apparatus, and once at night to view the heavens.

GEOLOGY.

One-half unit. The scope here intended is that of the text-books appropriate to high schools and preparatory schools, and includes the elements of dynamic, structural, and historical geology. The applicant must be able to distinguish specimens of the more general types of igneous and sedimentary rocks; also to classify in a general way the more common fossils and state the most general facts concerning their place in geological history. Examinations will also involve the interpretation of geologic maps. Laboratory exercises may be given, requiring the interpretations of such diagrams and views as are used for text-book illustration.

A knowledge of Physical Geography is required of all candidates in Geology. Norton's *Elements of Geology*, and Brigham's *Text of Geology*, are suitable texts.

HISTORY.

1. General History, or Medieval and Modern History. One unit. General History: Myers, Barnes, or G. B. Adams (complete). Medieval and Modern History: Munro and Whitcomb, Myers, Thatcher and Schwill, Harding's *Essentials*, or Robinson's *History of Western Europe* (complete).

II. English History. One unit. English History: Montgomery, Walker, Andrews, Cheyney, Larned, or Wrong (complete). (Where half time is given to this subject a half unit may be offered.)

III. Ancient History. One unit. Ancient History: Myers, Seignobos, West, or Wolfson (complete). (Where half time is given to the subject a half unit may be offered.)

IV. American History. One unit. American History: Adams and Trent, Channing, Larned, McLaughlin, Montgomery (student's), McMaster, or Hart's *Essentials* (complete).

V. American History and Civics. One unit. See list in IV for American History. For Civics, James and Sanford: *Government in State and Nation*, or an equivalent text.

CIVICS.

One-half unit. James and Sanford: *Government in State and Nation*, or an equivalent text. (See V under History above.)

DRAWING.

One unit. One unit for entrance will be allowed for Freehand Drawing or Mechanical Drawing, or both. The student must have done the equivalent of at least two years' work of not less than four periods a week of forty-five minutes each.

The work in Freehand Drawing should include outline drawing from models, principles of light and shade, application of conventional forms, ornaments, design, etc.

The course in Mechanical Drawing should cover lettering, simple geometric problems, projections, solution of problems of helix, cycloid, parabola, etc.

The candidate for admission on examination must present at the time of, and as a part of, his examination a full set of drawings, with the teacher's certificate that they are the candidate's work.

MANUAL TRAINING.

Drawing. Two units.—Two units of credit will be allowed the drawing which is given as a part of the Manual Training course, providing it covers four years of work and is done in accordance with the regulations governing laboratory work; that is, twice the time must be given to the subject each week as is given to a regular recitation period.

Shop work. Two units.—Two units of credit will be allowed for shop work of the four-year course in Manual Training. The course must include carpentry, wood turning, pattern making, foundry work, forging, and machine work, and the proper courses in drawing must accompany such work.

The amount of time spent in shop to receive one credit must be at least double the time spent in regular recitation work. The

candidate for admission on examination must present at the time of, and as a part of his examination a certified list of courses completed by him, the drawings for the same, and such statements of his work as will give an adequate idea of the efficiency of the course.

DOMESTIC SCIENCE.

Four Units.—Work in Domestic Science will be accepted for admission to the extent of four units, providing the work covers four years and is done in accordance with the regulations governing laboratory work; that is, twice the time should be given to this work each week as is given to the academic studies which it displaces. The course should include the drawing and art work which usually accompanies a first class course in this subject. The first two years should include a study of textiles, drafting of patterns and the making of dresses, and the designing and construction of hats. The last two years of work should consist of the study of cooking, chemistry of foods, home construction and sanitation, diatetics, food adulteration, bacteriology, laundering, decorating, and home economics.

ADMISSION ON CERTIFICATE FROM ACCREDITED SCHOOLS.

Work of passing grade will be accepted from graduates of the University's accredited schools in lieu of the entrance examinations upon the presentation of the proper certificate, signed by the principal of the school, certifying to the work of the candidate. All certificates presented for admission must specify the work actually done and the grade received in each course. Blank forms will be furnished upon application to the Director of School Affiliation.

These certificates, properly made out, should be sent to the "Director of School Affiliation, University of Cincinnati, Cincinnati, Ohio," as soon as possible after graduation, and at least five days before the first day of registration. Upon receipt of the certificate, the Director of School Affiliation will pass upon the application and if it is satisfactory, will send a card of admission, which should be presented to the Registrar at the opening of the session. If the certificate is not satisfactory, the candidate will be informed, so that he may prepare himself for the entrance examinations.

*LIST OF ACCREDITED SCHOOLS.

The following preparatory schools and high schools are on the accredited list of the University of Cincinnati. This list is

*Superintendents or principals who may desire to have their schools accredited by the University, should address the Director of School Affiliation.

subject to change from year to year, and each school is visited each year by a representative of the University:

CITY	NAME OF SCHOOL	PRINCIPAL
Bellevue, Ky.	High School	*W. P. King
Carthage, O.	High School	C. A. Wilson
Cincinnati, O.	Oakhurst Collegiate School	H. F. Kendrick
Cincinnati, O.	The Bartholomew Clifton School.	Miss E. A. Ely Mary F. Smith
Cincinnati, O.	Franklin School	J. E. White G. S. Sykes
Cincinnati, O.	The College Preparatory School for Girls	Mary Doherty
Cincinnati, O.	The H. Thane Miller School	Emma L. Parry Mrs. H. Miller
Cincinnati, O.	Hughes High School	E. W. Coy
Cincinnati, O.	Walnut Hills High School	Wm. T. Harris
Cincinnati, O.	Woodward High School	E. D. Lyon
Cincinnati, O.	University School	Wm. E. Stilwell
Cincinnati, O.	Notre Dame Academy, Grandin Rd.	†Sister Frances
College Hill, O.	Ohio Military Institute	§A. M. Henshaw S. P. C. Roberts
College Hill, O.	High School	G. N. Tremper *Wm. Altamer
Covington, Ky.	High School	H. S. Cox *H. O. Sluss
Dayton, O.	Steele High School	C. L. Loos, Jr. *E. N. Brown
Glendale, O.	High School	*J. C. Chapin
Glendale, O.	Glendale College	‡Jane R. DeVore
Hamilton, O.	High School	C. H. Lake *Darrel Joyce
Hartwell, O.	High School	S. J. Mauchly *Arthur Powell
Home City, O.	High School	*J. O. Falkenburg
Jeffersonville, Ind.	High School	F. E. Andrew *C. M. Marble
Lawrenceburg, Ind.	High School	M. D. Webb *J. W. Riddle
Lebanon, O	High School	Joseph Lyle *C. H. Young
Lockland, O.	High School	*S. F. Dial
Ludlow, Ky.	High School	W. D. Reynolds *C. G. Walden
Madisonville, O.	High School	*C. M. Merry
Maysville, Ky.	High School	G. E. True *J. W. Bradner
Middletown, O.	High School	M. O. Blakeslee *R. R. Upton
Milford, O.	High School	J. H. Hightower *H. P. Timmons
Newport, Ky.	High School	C. G. Hammond *E. Regenstein
Norwood, O.	High School	W. W. McIntire *W. S. Cadman
Pleasant Ridge, O.	High School	*T. L. Simmermon
Wyoming, O.	High School	*C. S. Fay

*Superintendent †Mother Superior §Commandant ‡President

LIST OF RECOGNIZED SCHOOLS.

The work of the following schools is recognized by the University. Graduates of these schools will be given entrance credit without examination for such work as they have completed in a satisfactory manner.

CITY	NAME OF SCHOOL	PRINCIPAL
Cincinnati, O.	East Night High School	Albert Schwartz
Cincinnati, O.	West Night High School	W. C. Washburn
Cincinnati, O.	Notre Dame Academy, Sixth Street	Sister Mary Borgia
Cincinnati, O.	Notre Dame Academy, Court and Mound Streets	Sister Cornelia
Dayton, O.	College Preparatory School	A. B. Shauck
Dayton, Ky.	High School	James McGinnis, Supt.
Highlands, Ky.	High School	F. A. Cosgrove
Loveland, O.	High School	John Morris, Supt.
Mt. Washington, O.	High School	A. M. Beck, Supt.
Terrace Park, O.	High School	B. T. Shiek

ACCREDITED SCHOOLS OF THE NORTH CENTRAL ASSOCIATION.

Graduates of the secondary schools approved by the North Central Association of Colleges and Secondary Schools will be admitted to the University of Cincinnati in accordance with the provision for "Admission on certificate from accredited schools."

The list of schools approved by this Association for 1910-11 is as follows:

Colorado.—*Aspen; Boulder (Colorado State Preparatory); Canon City; Canon City (South); Colorado Springs; Cripple Creek; Delta; Denver: East Side, West Side, North Side, South Side, Manual Training; Durango; Fort Collins; Fort Morgan; Golden; Grand Junction; Greeley; Idaho Springs; Lamar; Leadville; Longmont; Loveland; Monte Vista; La Junta (Otero County); Pueblo: District 1, District 20; Rocky Ford; Salida; Trinidad; Victor.*

Illinois.—*Alton; Aurora: East, West; Belvidere: North, South; Bloomington; Bradley Polytechnic Institute (Peoria); Blue Island; Cairo; Carthage; Carthage Col. Academy; Centralia; Champaign; Chicago: Austin, Calumet, Crane (Man. Tr.), Curtis, Englewood, Hyde Park, Lake, Lake View, Marshall, McKinley, Medill, Phillips, South Chicago, Tuley Waller; Chicago Heights (Bloom Tp.); Clinton; Danville; Decatur; De Kalb Tp.; Des Plaines (Maine Tp.); Dixon; Dundee; Duquoin Tp.; Elgin; Elgin Academy; Elmhurst Proseminar; Evanston Tp.; Evanston Academy; Ferry Hall (Lake Forest);*

Francis Shimer Academy; F. W. Parker (Chicago); Freeport; Galesburg; Galva; Geneseo; Grand Prairie Seminary (Onarga); Granite City; Harrisburg Tp.; Harvey (Thornton Tp.); Highland Park (Deerfield Tp.); Hinsdale; Hoopeston; Ill. Woman's Col. Prep. Dept. (Jacksonville); Jacksonville; Joliet Tp.; J. Sterling Morton Tp.; Kankakee; New Trier Tp.; Kenwood Institute (Chicago); Kewanee; Lake Forest Academy; La Salle (Peru Tp.); Lovington Tp.; Lyons Tp. (La Grange); Macomb; Marshall; Mattoon; Maywood and Melrose Park Tp.; Moline; Monmouth; Morgan Park; Mt. Vernon Tp.; Normal; N. W. Military Academy; Oak Park Tp.; Olney; Ottawa Tp.; Pekin; Peoria; Polo; Pontiac Tp.; Princeton Tp.; Quincy; Riverside; Rochelle; Rockford; Rockford Col. Acad.; Rock Island; Savanna Tp.; St. Charles; Springfield; Sterling Tp.; Streator Tp.; Taylorville Tp.; Tuscola; Urbana; Waukegan Tp.; West Chicago; West Ill. Nor. School, Acad. Dept. (Macomb); Western Mil. Acad. (Upper Alton); Wheaton; Woodstock.

Indiana.—*Alexandria; Anderson; Angola; Attica; Bedford; Bloomington; Bluffton; Brazil; Columbus; Connersville; Covington; Crawfordsville; Decatur; East Chicago; Elkhart; Elwood; Evansville; Ft. Wayne; Frankfort; Franklin; Goshen; Greenfield; Hammond; Hartford City; Howe (Lima); Huntington; Indianapolis: Manual Training; Shortridge; Jeffersonville; Kokomo; Lafayette; La Grange; La Porte; Lawrenceburg; Lebanon; Michigan City; Mishawaka; Mount Vernon; Muncie; New Castle; Peru; Plymouth; Rensselaer; Richmond; Rochester; Rushville; Shelbyville; Sheridan; Sullivan; Terre Haute; South Bend; Union City; Valparaiso; Wabash; Whiting.*

Iowa.—*Algona; Ames; Boone; Burlington; Carroll; Cedar Falls; Cedar Rapids; Centerville; Charles City; Cherokee; Clarinda; Clinton; Corning; Corydon; Council Bluffs; Cresco; Creston; Davenport; Decorah; Denison; Des Moines: East, North, West; Dubuque; Eagle Grove; Fort Dodge; Grinnell; Ida Grove; Independence; Indianola; Iowa City; Keokuk; La Mars; Manchester; Marengo; Marion; Marshalltown; Mason City; Missouri Valley; Muscatine; Newton; Osage; Onawa; Oskaloosa; Ottumwa; Red Oak; Sac City; Sheldon; Sioux City; Spencer; Villisca; Vinton; Washington; Waterloo: East, West; Waverly; West Liberty.*

Kansas.—*Abilene; Arkansas City; Concordia; Emporia; Ft. Scott; Hiawatha; Holton; Hutchinson; Iola; Junction City; Kansas City; Lawrence; Leavenworth; Ottawa; Paola; Parsons; Pratt; Salina; Sumner Co. (Wellington); Topeka; Wichita; Winfield.*

Michigan.—*Adrian; Albion; Alpena; Ann Arbor; Bay City: East, West; Battle Creek; Belding; Benton Harbor; Benton Harbor Col. Inst.; Bessemer; Big Rapids; Birmingham; Cadillac; Calumet; Caro; Charlotte; Cheboygan; Chelsea; Coldwater; Crystal Falls; Detroit: Central, Eastern, Higgins, Home and Day, Macmillan, University, Western; Dollar Bay; Dowagiac; Escabana; Grand Rapids; Grand Haven; Hancock; Hastings; Hillsdale; Holland; Houghton; Howell; Ionia; Iron Mountain; Ironwood; Ishpeming; Jackson; Kalamazoo; Lake Linden; Lansing; Ludington; Manistee; Manistique; Marshall; Marquette; Menominee; Monroe; Muskegon; Mt. Clemens; Mt. Pleasant; Negaunee; Niles; Norway; Otsego; Owasso; Petoskey; Pontiac; Port Huron; Saginaw: East, West; Sault Ste. Marie; South Haven; St. Johns; St. Joseph; Three Rivers; Traverse City; Union City; Wyandotte; Ypsilanti.*

Minnesota.—*Albert Lea; Alexandria; Anoka; Austin; Blue Earth; Canby; Cloquet; Clookston; Duluth Central; Ely; Eveleth; Fairmont; Faribault; Fergus Falls; Glencoe; Grand Rapids; Hastings; Hibbing; Hutchinson; Jackson; Lake City; Little Falls; Macalester Academy; Mankato; Marshall; Minneapolis: Central, East, North, South, West; Montevideo; Moorhead; Morris; New Ulm; Northfield; Owatonna; Red Wing; Rochester; St. Cloud; St. James; St. Paul: Central, Cleveland, Humboldt; St. Peter; Sleepy Eye; Stillwater; Two Harbors; Virginia; Waseca; Wells; Willmar; Winona; Worthington.*

Missouri.—*Carrolton; Cartersville; Carthage; Chillicothe; Christian College; Drury College Academy (Springfield); Fredericktown; Hannibal; Howard Payne; Kansas City: Central, Manual Training, Westport; Kemper Military School; Kirkwood; Kidder Institute; Lamar; Lindenwood College; Manual Training School, Washington University; Maryville; Mexico; Monett; Poplar Bluff; St. Louis: Central, McKinley, Soldan, Yeatman; St. Joseph; Sedalia; Smith Academy (St. Louis); Shelbina; Stephens College; Trenton; West Minster Academy; Walther College (St. Louis); Wentworth Military Academy; Webster Groves; West Plains.*

Nebraska.—*Auburn, Ashland, Beatrice, Blair, Brownell Hall (Omaha); Columbus; Crete; Doane College Academy; Falls City; Fairbury; Franklin Academy; Fremont; Geneva; Grand Island; Hastings; Hastings College Academy; Hebron; Holdrege; Kearney; Lincoln; Lincoln Academy; McCook; Minden; Nebraska City; Nebraska Military Academy; Nebraska Wesleyan Academy; Norfolk; North Platte; Omaha; Pawnee City; Plattsmouth; Seward; South Omaha; Superior; Tecumseh; University Place; York.*

Montana.—*Anaconda; Billings; Helena.*

North Dakota.—*Cando; Devils Lake; Fargo; Grafton; Grand Forks; Jamestown; Kenmare; Minot; Valley City; Wahpeton.*

Ohio.—*Akron; Akron Buchtel Academy; Ashtabula; Athens; Bellefontaine; Bowling Green; Bryan; Bucyrus; Cambridge; Canal Dover; Canton; Chillicothe; Cincinnati: Franklin School, Hughes, Walnut Hills, Woodward, University School; Circleville; Cleveland: Central, Collinwood, East, Glenville, Lincoln, South, West, University School; Cleveland Heights; Columbus: Central, East, North, South, School for Girls; Conneaut; Coshocton; Dayton: Steele, St. Mary's Institute; Defiance; Delaware; Delphos; Doane Academy (Granville); East Cleveland; East Liverpool; Eaton; Elyria; Findlay; Fostoria; Fremont; Galion; Gallipolis, Geneva; Glendale; Greenfield; Greenville; Hamilton; Hartwell; Hillsboro; Ironton; Kent; Kenton; Lakewood; Lancaster; Lima; Lockland; London; Lorain; Madisonville; Mansfield; Marietta; Marion; Martins Ferry; Marysville; Massillon; Medina; Miamisburg; Middletown; Mt. Vernon; Nelsonville; Newark; New Philadelphia; Norwood; Oberlin; Oberlin Academy; Oxford College for Women (Academy); Painesville; Piqua; Portsmouth; Ravenna; Salem; Sandusky; Shelby; Sidney; Steubenville; St. Marys; Tiffin; Toledo; Toledo Smead School; Troy; Upper Sandusky; Urbana; Van Wert; Wapakoneta; Warren; Washington; Wauseon; Wellsville; Willoughby; Wooster; Wyoming; Xenia; Youngstown; Zanesville.*

Oklahoma.—*Muskogee; Oklahoma City.*

South Dakota.—*Aberdeen; Brookings; Deadwood; Huron; Lead; Madison; Mitchell; Pierre; Rapid City; Redfield; Sioux Falls; Sioux Falls (All Saints); Vermillion; Watertown; Webster; Yankton.*

Wisconsin.—*Antigo; Appleton; Ashland; Baraboo; Beaver Dam; Wayland Academy (Beaver Dam); Beloit; Berlin; Black River Falls; Boscobel; Burlington; Chippewa Falls; Columbus; Delavan; Eau Claire; Edgerton; Elkhorn; Evansville; Fond du Lac; Fort Atkinson; Grand Rapids; Green Bay (East); Green Bay (West); Hartford; Hudson; Janesville; Kaukauna; Kenosha; La Crosse; Lancaster; Madison; Madison (Wisconsin Academy); Manitowoc: North, West; Marinette; Marshfield; Wedford; Menasha; Menomonie; Merrill; Milwaukee; East, North, South, West; Milwaukee-Downer Seminary; Mineral Point; Monroe; Neenah; Neillsville; New London; New Richmond; Oconto; Oshkosh; Platteville; Plymouth; Portage; Racine; Racine College Grammar School; Reedsburg; Rhinelander;*

Ripon; River Falls; Sheboygan; South Milwaukee; Sparta; Stanley; Stevens Point; Stoughton; Sturgeon Bay; Superior: Blaine, Nelson Dewey; Tomah; Viroqua; Washburn; Waukesha; Carroll College Academy (Waukesha); Waupaca; Wausau; Wauwatosa; West Allis; Whitewater.

Wyoming.—*Cheyenne.*

SPECIAL STUDENTS.

Persons at least twenty years of age and qualified to do University work may be admitted as special students to lectures and laboratory courses. They will be required to furnish documentary evidence to the Director of School Affiliation, and also to satisfy the heads of the departments concerned of their ability to carry on successfully the courses which they desire to enter.

Before any special student can become a candidate for a degree he must satisfy the entrance requirements. All special students are amenable to the same regulations as apply to regular students in matters of examination, probation, discipline, etc.

STUDENTS ENTERING FROM OTHER COLLEGES AND UNIVERSITIES.

An undergraduate of a college or university desiring to enter the McMicken College of Liberal Arts must present to the Director of School Affiliation satisfactory evidence that he has done a sufficient amount of preparatory work to meet the regular entrance requirements, together with a certificate of honorable dismissal from the college or university last attended. He will be given credit for work of University grade in accordance with the provision for "Admission to Advanced Standing."

ADMISSION TO ADVANCED STANDING.

Students may be admitted to advanced standing upon presentation of a certificate from a college of approved standing. All applications for advanced standing must be made within three weeks after matriculation to the Director of School Affiliation, and must be accompanied by a statement of the work done, signed by the proper officials of the college from which the applicant comes, and by a marked copy of the catalogue or by a written description in detail of the courses for which advanced credits are desired. In courses where note books or drawings or both are required, these also must be presented. The students applying for advanced standing must first have satisfied the entrance requirements the same as regular students.

REGISTRATION.

New students should register in 1910 on Thursday and Friday, September 22 and 23; upper classmen on Saturday, September 24. In 1911 they should register on Monday, January 30. Students registering on any other days than those designated above will be required to pay a registration fee of one dollar.

New Students.—A student shall (1) take to the Advisory Committee for Freshmen the Certificate of Admission received from the Director of School Affiliation and, after consultation, fill out the course card received from the Committee; (2) take the Certificate of Admission and the Course Card to the Registrar; (3) pay the library fee (also tuition and laboratory fees when such are required) to the Clerk of the Board; (4) get a receipt for matriculation from the Clerk of the Board; (5) file the course card received from the Advisory Committee in a box prepared for that purpose in the Registrar's office.

Upper Classmen should fill out the registration blank and present it to the Registrar, who will give in exchange a Card of Matriculation Fees, which must in turn be presented to the Clerk. After paying the library fee (also tuition and laboratory fees, when such are necessary), upper classmen should take the Clerk's receipts to their respective Deans, and receive their Course and Schedule Cards. The young men will obtain these cards from the Dean of the College of Liberal Arts and the young women from the Dean of Women.

On the Course Card each course must be designated by the department and the number of the course, special title, and the number of hours credit, e. g.:

English 1: Rhetoric and Composition..... 3
Mathematics 1: Algebra, Trigonometry, and Analytical Geometry 4

In filling out election blanks especial care should be taken to note the advertised hours of courses, in order that conflicts may be avoided.

No change will be permitted on the Course Card after the expiration of three days from the last day of registration.

All Course and Schedule Cards must be filled out and deposited in the boxes provided for that purpose before four o'clock on the last registration day.

No person will be admitted to any course after the beginning of the semester, unless a good and sufficient excuse for not entering at the opening of the semester be presented to the Dean; and in no event will any person be permitted to enter the work of any semester after the close of the third week of that semes-

ter. In accordance with this regulation no person will be admitted to the work of the first semester of 1910-11 after October 15, 1910; for the second semester, the last day of admission will be February 20, 1911.

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE.

The degree of Bachelor of Arts is the only degree conferred upon graduates of the College of Liberal Arts.

The "unit" for reckoning credit in the University is a subject pursued for one hour per week for one semester. One hundred and twenty-four credits are required for the degree of Bachelor of Arts, of which the required subjects as outlined below must be a part. It is required, moreover, that every candidate for this degree must attain a grade not lower than *C* in at least sixty of the one hundred and twenty-four credits.

All students who are candidates for the Bachelor of Arts degree must fulfill the following requirements:

1. English 1, three hours per week, to be taken in the freshman year.

2. One of the *sciences, Biology, Chemistry, Geology, or Physics, with laboratory work, five hours per week for one year. Those students who elect Mathematics in their freshman year are permitted to postpone their work in Science until the sophomore year.

3. A three-hour course for one year in either Psychology or Philosophy, not to be taken in the freshman year.

4. A reading knowledge of two languages out of four (Greek, Latin, French, or German). It is advised that this knowledge be acquired before the junior year.

In case four units in any language are offered for admission the requirement in this language shall be regarded as fulfilled; in case two units in any language are offered, the student shall be required to take an additional three-hour University course for one year in the same language during the freshman or sophomore year.

5. Three hours per week in the department of Physical Education for all members of the freshman class, and two hours for all members of the sophomore class. (This rule does not apply to those students giving part of their time to law, medicine, or theology.)

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*Science may be elected in the sophomore year by freshmen who are taking both Greek and Latin.

On or before the first week of the senior year students who have not been certified by the heads of the departments of Greek, Latin, French, or German, as having fulfilled the requirements with respect to language, must pass an examination to determine that they have fulfilled these requirements.

At or before the beginning of the junior year each student is required to select work in two departments, in each of which he shall have obtained at least sixteen credits before graduation.

The last year of work required for the degree of Bachelor of Arts must be done in residence at the University of Cincinnati.

ADVANCED DEGREES.

For information regarding the requirements for the degrees of Master of Arts and Doctor of Philosophy, consult announcement of the Graduate School.

ELECTION OF STUDIES.

The following courses are prescribed for all freshman students in the College of Liberal Arts:

English 1	3 credit hours.
Language	3 credit hours.
*Science or Mathematics	5 credit hours.
Physical Education	1 credit hour.
Total	12 credit hours.

The selection of the remainder of the work for the freshman year is left to each student in conjunction with the Advisory Committee.

Subject to the restrictions noted under "Requirements for the Bachelor of Arts Degree," the department statements, and "Election of Studies." all studies are open to election.

In all laboratory courses two and one-half hours in the laboratory are considered as equivalent to one recitation hour and the preparation therefor. Without permission from the Dean, no student shall elect courses amounting to more than eighteen hours per week of University work, exclusive of the work in Physical Education.

Students who have satisfied the requirements for admission, but take less than twelve hours per week, are called "irregular students," and a tuition fee is charged in every instance. (See "Fees.") No student is permitted to elect courses in more than five subjects in any one semester.

*Freshmen who take both Greek and Latin will be permitted to take their science in the sophomore year.

SPECIAL ARRANGEMENTS.

Credit for Work Done in the College of Law. A student who has received credit for the work of the first two years in the College of Liberal Arts may, in the third year, elect from four to six hours of the lectures of the first year of the law course, as a substitute for studies in the College of Liberal Arts, and in the following year he may in the same way take the remainder of the thirteen hours of the first year's course in the College of Law. Thus a student may obtain both the academic and legal degrees in six years.

Seven-year Combined Collegiate and Medical Course.

A revised plan for a combined collegiate and medical course is now under consideration whereby a student may take both the degrees of Bachelor of Arts and Doctor of Medicine in seven instead of eight years. Students who desire to elect this course must first obtain permission to do so from the Dean of the College of Liberal Arts.

Details regarding this combined course will appear in the Announcement of the Ohio-Miami Medical College for 1910-1911, which will appear shortly.

Credit for Hebrew Taken in the Hebrew Union College and in the Lane Theological Seminary. Arrangements have been made with the Hebrew Union College and with the Lane Theological Seminary, whereby students of these institutions who are pursuing a course in the University of Cincinnati may be allowed to count work in Hebrew taken in these institutions for the degree of Bachelor of Arts, to the amount of two hours a week throughout the Freshman and Sophomore years, and three hours a week throughout the Junior and Senior years, for the Hebrew Union College, and three hours per week for three years in the Lane Theological Seminary, provided such work is regularly entered upon the election schedules of the University.

Credit for Work Done in the Art Academy of Cincinnati. By an arrangement with the Art Academy of Cincinnati, students from the University may elect from the courses stated in the catalogue in drawing, modeling and carving, not more than six hours' work in any one semester, and receive credit therefor on the books of the University, provided these courses have been duly entered on the election blank and the proper certificate from the Director of the School is presented on their satisfactory completion. Not more than twelve hours of work in the Art Academy will be credited for the degree of Bachelor of Arts.

Credit for Work Done in the College for Teachers. A student in the College of Liberal Arts may elect Education in the College for Teachers in lieu of the work in one of the two departments in each of which he is required to obtain at least sixteen credits before graduation.

Certain courses in Education, also, to the number of twenty-four credits, may be elected by undergraduates during the senior year and be counted toward fulfilling requirements for the A. B. degree. For the courses which may be counted, those which are prerequisite to them, and other items of information see page 66.

GENERAL REGULATIONS.

Each student shall at the beginning of the year leave his local address at the office of the Registrar and shall promptly report all subsequent changes of address.

Credit will be given for the number of hours officially published with each course and for no more. University work not regularly registered is forbidden.

All absences of students from class work must be accounted for in the case of the young men to the Dean of the College of Liberal Arts and in the case of the young women to the Dean of Women. A student who has been absent must report to his or her Dean within a week after returning to the University, or the absence shall be counted as unexcused.

A student shall not be admitted to the semester's examinations in any subject and shall be reported as having failed therein when his unexcused absences in that subject are as follows:

For one-hour course	2	absences.
For two-hour course	4	"
For three-hour course	5	"
For four-hour course	7	"
For five-hour course	9	"
For six-hour course	10	"

The scale of marks for recording grades is as follows:

A: 90–100.
B: 80–89.
C: 70–79.
D: 60–69 Passed.
E: 50-59 Conditioned.
F: 0–49 Failed.

A student in the College of Liberal Arts who receives a grade below "D" in one-half of his work at the mid term or at the end of any semester, shall be put upon probation with restricted work for the next half semester of college work. Such a student, if similarly delinquent at the end of his term of probation, shall cease to be a member of the University.

If it shall be necessary to place a student upon probation a second time, it shall be within the power of the Dean to dismiss the student the moment his grades fall below "D" in one-half of his work.

Any student found to be inadequately prepared for University work or whose progress is unsatisfactory for any cause, may be dismissed from the University at the discretion of the President.

It is required as a condition for honorable dismissal that every student who wishes to withdraw from the University shall submit to the Registrar a written request to that effect.

In case a student withdraws from the University during any semester, credit will not be given for any of the work elected for that semester.

Copies of "Rules for the Guidance of Students" may be obtained at the Office of School Affiliation.

FEES IN THE COLLEGE OF LIBERAL ARTS.

All fees must be paid in *advance* to the Clerk of the Board of Directors during the days of registration. If fees are not paid promptly, the Dean is authorized to exclude students from attendance upon their classes. *No University fees are refunded.*

Library Fee. All students must pay a library fee of five dollars per year at the opening of the session.

Tuition. Tuition is free to regular students who are residents of Cincinnati. All other regular students are charged a tuition fee of thirty-seven dollars and fifty cents per semester.

All *Special* students, and *Irregular* students (i. e., students who have satisfied the requirements for admission but take less than twelve hours of work a week by special permission) are charged tuition at the rate of three dollars per credit hour, in advance. A credit hour is one hour's work a week carried through a semester or half year. For instance, tuition for a three-hour course would amount to nine dollars a semester, or eighteen dollars a year; for a five-hour course, fifteen dollars a semester, or thirty dollars a year.

Students in the College of Liberal Arts who are residents of the city of Cincinnati, and elect any work whatsoever in the College of Engineering, are charged the full tuition fee, which is thirty-seven dollars and fifty cents per semester.

Laboratory Fees.

Geology, five dollars per semester, in advance.
Psychology, five dollars per semester, in advance.
Biology, ten dollars per semester, in advance.

Physics, ten dollars per semester in advance. (Five dollars per semester, in advance, for a laboratory course of one period a week.)

Chemistry, fifteen dollars per semester, in advance. (Metallurgy, seven dollars and fifty cents per semester.)

A deposit of fifteen dollars at the opening of the session is required of all students taking Chemistry, to insure the University against loss by breakage in the Chemical Laboratory. This deposit will be returned at the end of the year after deductions have been made for breakage.

A student who elects a laboratory course shall not be permitted to enter such a course until he presents to the instructor in charge a receipt for the payment of his laboratory fee.

Diploma Fee. Students who receive the Bachelor of Arts degree are charged a diploma fee of five dollars, which must be paid at least two weeks before the day appointed for conferring the degree.

Special Examinations. A fee of one dollar will be charged for each supplemental examination for the removal of conditions. (This fee must be paid even though the condition is removed without a supplemental examination.) A fee of five dollars will be charged for entrance examinations on days other than those specified in the calendar.

Late Registration Fee. Students who apply for registration or submit schedules of study on days other than those designated, will be required to pay a fee of one dollar.

Fees in the Special Courses for Teachers. All teachers enrolled in the special courses are charged the regular library fee of five dollars a year. Tuition is free in the special courses given at the University to all teachers in public schools who are residents of Cincinnati or who, although non-residents, are engaged in teaching in the public schools of the city. All other teachers are charged tuition at the rate of three dollars per *course* per *year*, payable in advance.

The laboratory fee in a Teacher's course is five dollars per year.

COURSES OF INSTRUCTION.

ASTRONOMY.

Professor Porter.

The Cincinnati Observatory, constituting the astronomical department of the University, is situated on Mount Lookout. The grounds comprise about thirteen acres. On the highest point stands the main building, surmounted by a thirty-foot dome.

This dome houses the large equatorial, built by the Alvan Clark and Sons' Corporation. The diameter of the objective is sixteen inches, and the focal length slightly over twenty feet. The instrument is equipped with driving clock, micrometer, electric lighting, and other devices requisite for convenient manipulation. The magnifying powers range from 80 to 800.

In the western wing is placed the meridian circle by Fauth and Co. This instrument has an aperture of five inches and a focal length of seventy inches. The circle is divided to five minutes of arc, and read by four microscopes to single seconds. The eastern wing is used as a library and computing room.

A clock vault in the basement contains the new Riefler standard and secondary clocks, the latter synchronized with the former, and this in its turn controlling two dials placed in the transit room and dome.

A smaller observatory, named the O. M. Mitchel Building, in honor of the original founder of the institution, has been erected for the reception of the eleven-inch equatorial. The Observatory possesses also a four-inch equatorial by Clark, a sidereal chronometer by Bond, a chronograph by Fauth, and a mean-time clock by Ritchie. The library contains about 3,500 volumes, including most of the star catalogues and many valuable works of reference.

The scientific activity of the Observatory has been uninterrupted since the removal in 1873 to the prcsent site. During this period sixteen numbers of the regular publications have been issued, besides many memoirs which have appeared in the astronomical journals. Special prominence is given to stellar astronomy, many important discoveries having been made in this field. The Observatory is also cooperating at the present time with the International Geodetic Association in the determination of the variation of latitude.

FOR UNDERGRADUATES.

1b. Descriptive Astronomy.—Lectures and class work. No mathematical training is required beyond a geometrical conception of the sphere and its circles. The object of the course is to give a comprehensive view of astronomy in its historic and practical relations, as well as a general resume of our knowledge concerning the heavenly bodies. Reference books: *Popular Astronomy*, Newcomb; *Manual of Astronomy*, Young; *The Stars in Song and Legend*, Porter. M., F., 10:30-11:30, *second semester*.

Professor Porter.

2a. General Astronomy.—Text-book: Young's *General Astronomy*. T., 2:00-3:00, *first semester*. Professor Porter.

For Course 2a Trigonometry, Analytical Geometry, and Calculus will be required.

3b. General Astronomy.—Text-book: Young's *General Astronomy.* T., 2:00-3:00, *second semester.* Professor Porter.

Course 3b is open only to those who have taken Course 2a.

FOR UNDERGRADUATES AND GRADUATES.

4a. Celestial Mechanics.—Investigation of the fundamental equations of motion and of the formulae for determining the positions of bodies revolving about the sun. Text-book: Watson's *Theoretical Astronomy. First semester;* hours to be arranged. Professor Porter.

5b. Computation of a parabolic orbit from three observations, and of an elliptic orbit with perturbations. Text-book: Watson's *Theoretical Astronomy. Second semester;* hours to be arranged. Professor Porter.

Courses 4a and 5b are given at the Observatory.

BIBLICAL LITERATURE.

Professor Tawney.

FOR UNDERGRADUATES.

8a. The History of Jewish Prophecy.—A course intended to review the relation of the prophetic literature to the political history of the Jews from the middle of the eighth century, B. C., to the time of the Maccabees. Lectures, readings in the Old Testament, and reports. *First semester,* T., Th., 10:30-11:30. Professor Tawney.

9b. The Theology, Ethics, and Politics of the Jews.—A course intended to estimate the contributions of the Jews to the ecclesiastical, political, and social history of modern civilizations. Lectures, investigations, and reports. *Second semester,* T., Th., 10:30-11:30. Professor Tawney.

BIOLOGY.

Professor Guyer, Associate Professor Benedict, Dr. Wieman, Miss Box, Mr. Peaslee, Mr. Lantis, and Mr. Hathaway.

The courses in biology aim to meet the needs of three classes of students: (1) those who desire biological training as a matter of general education; (2) prospective medical students; (3) those who seek preparation for a scientific career.

In the advanced courses training in physics and chemistry, as well as ability to read French and German, is expected. Special facilities are afforded students pursuing courses of research.

Students who expect to do advanced work in biology are advised to take general inorganic chemistry during their first year and organic chemistry during their second year, together with the courses in biology.

Students who desire to be recommended as teachers of biology in secondary schools must complete as a minimum courses 1a to 8b inclusive and courses 15a, 17b, and 18b. It is very desirable that they also do at least one year of graduate work.

REQUIREMENTS FOR DEGREES.

When biology is chosen as one major for the degree of Bachelor of Arts, the sixteen credits regarded as a minimum must be in zoology or in botany; that is, only one elementary course will be counted in these sixteen units.

To enter upon work for the degree of Master of Arts in zoology, students must have completed courses 1a, 2a, 3b, 4b, 10a, 15a, 17b, 18b, or their equivalents. Courses for "Undergraduates and Graduates" may be counted as graduate subjects toward the degree of Master of Arts by students who elect their majors in other departments. When zoology is chosen as a minor for the degree of Doctor of Philosophy, the work required approximates that of the full course for the degree of Master of Arts in Zoology.

LABORATORIES.

The Biological Department occupies the east half of the basement and the second and third floors of Cunningham Hall. The fixtures have been carefully designed to meet all of the requirements of modern biological work, and the laboratories are well provided with optical apparatus and the various instruments of biological technique. Besides these, a liberal supply of more special appliances is at the service of the investigator. Special laboratories are provided for students taking advanced courses and courses of research.

COURSES IN DETAIL.

FOR UNDERGRADUATES.

1a. Animal Biology.—Lectures dealing with topics of a general biological nature, such as animal activities and adaptations, protoplasm, the cell, sex, development, etc. The course is intended to provide a thorough foundation for further work in zoology. This course must be accompanied by Course 2a. *First semester*, M., W., F., 9:30-10:30.

Professor Guyer.

2a. Animal Biology, Laboratory.—This course consists of the practical laboratory and field work which must accompany Course 1a. Certain animals, selected as types to illustrate general principles, are dissected and compared. Careful notes and drawings of all dissections are required. *First semester*, Sec. I, M., W., 1:00-4:00; Sec. II, T., Th., 1:00-4:00; Sec. III, T., Th., 8:30-11:30. Professor Guyer, Miss Box, and Mr. Peaslee.

3b. General Zoology.—Lectures dealing in a comparative way with the various groups of animals, including life-histories, distribution, habits, adult anatomy, and classification. This course must be accompanied by Course 4b. *Second semester*, M., W., F., 9:30-10:30. Professor Guyer.

Course 3b is open to students who have passed in Course 1a.

4b. General Zoology, Laboratory.—This course consists of the practical work which must accompany Course 3b. Careful dissections, drawings, and comparisons are required. *Second semester*, Sec. I, M., W., 1:00-4:00; Sec. II, T., Th., 1:00-4:00; Sec. III, T., Th., 8:30-11:30.

Professor Guyer, Miss Box, and Mr. Peaslee.

5a. Plant Biology.—Lectures dealing with the physiology, ecology, and evolution of plants. The course is designed to give a general understanding of the factors which are operating in plant life, and to provide the proper foundation for the study of systematic botany. This course must be taken in conjunction with Course 6a. *First semester*, M., W., F., 8:30-9:30.

Associate Professor Benedict.

6a. Experimental Plant Biology.—This course consists of laboratory and field investigations of the physiology and ecology of selected plants and is designed to give the student a thorough working knowledge of the vital activities of plants and of the best methods for their demonstration. Each student is required to keep a careful record in a note-book of the results of all physiological experiments and ecological observations, illustrating them with exact drawings. This course must be taken in connection with Course 5a. *First semester*, T., Th., 1:00-4:00.

Associate Professor Benedict and Mr. Lantis.

7b. General Botany.—Lectures on the structure, reproduction, and adaption to environment of the plants of the various phyla of the plant kingdom, including short series of special lectures on "Bacteria and Disease" and "History and Value of Cultivated Plants." This course is designed to give a general knowledge of the different forms of plant life. It must be taken in connection with Course 8b. *Second semester*, M., W., F., 8:30-9:30. Associate Professor Benedict.

8b. General Botany, Laboratory.—Thorough laboratory study of the structure of selected plants as examples of the different phyla of the plant kingdom, as well as carefully organized field trips for the purpose of learning to identify the commoner plants in their own habitats. This course must be taken in connection with Course 7b. *Second semester*, T., Th., 1:00-4:00.

Associate Professor Benedict and Mr. Lantis.

9. Sanitary Biology.—Lectures on the biological principles involved in sanitary engineering, designed to enable the engineer to solve local problems in sanitation and to appreciate the significance of specialists' reports. F., 9:30-10:30, throughout the year. Associate Professor Benedict.

Course 9 is open to all students.

10a. Microscopical Technique.—The course includes the preparation and use of standard fixing and staining agents and drill in the manipulative processes incident to modern microscopy. *First semester*, F., 1:00-4:00.

Dr. Wieman and Mr. Peaslee.

Course 10a is open to students who have passed in Course 2a.

11a. Animal Life, Organic Evolution, and Heredity.—A lecture course primarily for upper classmen who have not elected the regular work in biology, but who desire some insight into the fundamental problems of this science as a part of a liberal education. *First semester*, T., Th., 9:30-10:30. Professor Guyer.

Omitted in 1910-11.

12b. Field Ornithology.—A field study of the identification, classification, songs, and habits of our native birds. One laboratory period per week during the second semester. Hours to be arranged. Associate Professor Benedict.

15a. Invertebrate Zoology.—A three-hour course (one hour discussion, two laboratory periods) dealing with selected forms of Invertebrates. It is intended for students who desire a wider acquaintance with such forms than that afforded by the course in general zoology. It is recommended that Course 10a be taken in connection with this course. T., 1:00-2:00; T., Th., 2:00-5:00. Professor Guyer.

Course 15a is open to students who have passed in Courses 2 and 4.

17b. Comparative Anatomy of Vertebrates.—Lectures on the anatomy, classification, habits, and distribution of vertebrates. The anatomy is studied in a comparative way, with special ref-

erence to the evolution of the various organs. This course must be accompanied by Course 18b. *Second semester*, T., Th., 1:00-2:00. Dr. Wieman.

Course 17b is open to students who have passed in Course 3b.

18b. Comparative Anatomy of Vertebrates, Laboratory.—The work consists in the careful dissection and study of selected forms. *Second semester*, M., W., 1:00-4:00. Dr. Wieman.

Course 18b is open to students who have passed in Course 4b.

FOR UNDERGRADUATES AND GRADUATES.

19. Embryology and Histology of Vertebrates.—Twelve weeks of the first semester are devoted to embryology, the remainder of the first and the entire work of the second semester, to histology. The work in embryology consists of lectures and demonstrations dealing with the history of the germ cells, cleavage of the ovum, embryo formation, and the development of the principal organs of the body. The histological work consists of lectures and recitations upon the microscopic structure of tissues and organs. This course must be accompanied by Course 20. M., W., 1:00-2:00. Dr. Wieman.

Course 19 is open to students who have passed in Courses 1, 2, 3, 4.

20. Embryology and Histology of Vertebrates, Laboratory.—Laboratory work to accompany Course 19. In embryology the work is based largely on the chick and pig. In histology chiefly human and other mammalian tissues are studied. Students who have not had Course 10a are advised to take it in connection with this course. M., W., 2:00-5:00.

Dr. Wieman and Mr. Peaslee.

Course 20 is open to students who have passed in Courses 1, 2, 3, 4.

23. Field Work.—Practical directions for collecting, identifying, and preserving specimens will form a minor part of the work. Each student is assigned a special problem. The work may be taken as a two or a three hour course. Hours to be arranged. Associate Professor Benedict.

Course 23 is open to only those students who have passed in the elementary courses in botany or zoology.

24a. Plant Histology.—Lectures on the general histology of the Spermatophytes, special attention being given to the physiological adaptations of the tissues to their functions. This course must be taken in connection with Course 25a. *First semester*, T., 10:30-11:30. Associate Professor Benedict.

Course 24a is open to students who have passed in Courses 5a, 6a, 7b, 8b.

25a. Plant Histology, Laboratory.—In this course the student will be given sufficient practice in microscopical botanical technique to enable him to prepare the slides which he will use in his laboratory study of the tissues of selected plants. Accurate drawing and descriptions will be required. A few exercises on the identification of food adulterations will be given. This course must be taken in connection with Course 24a. *First semester*, T., Th., 8:30-11:30. Associate Professor Benedict.

26b. The Reproduction and Embryology of the Spermatophytes.—Lectures on the origin and nature of sexual reproduction in the flowering plants and the general principles of Spermatophyte embryology. This course must be taken in connection with Course 27b. *Second semester*, T., 10:30-11:30.

Associate Professor Benedict.

Course 26b is open to students who have passed in Courses 24a and 25a.

27b. Reproduction of the Angiosperms.—A laboratory investigation of the origin of the sex cells and the formation of the seed in selected Angiosperms. While a few special slides will be supplied the student will be required to make his own preparations. This course must be taken in connection with Course 26b. *Second semester*, T., Th., 8:30-11:30.

Associate Professor Benedict.

PRIMARILY FOR GRADUATES.

30. Current Problems in Biology.—Assigned readings and discussions to accompany courses of research. A reading knowledge of French or German is required. M., Th., 4:00-5:00.

Professor Guyer.

31. Research.—Hours to be arranged.

Professor Guyer and Associate Professor Benedict.

32a. Anatomy and Physiology of the Cell; Non-Developmental Phenomena.—Lectures on the structure and function of cells other than the germ cells. *First semester*, M., W., 4:00-5:00.

Professor Guyer.

Omitted in 1910-11.

33b. Anatomy and Physiology of the Cell; the Germ Cell.—Lectures dealing with the cell from the viewpoint of development and inheritance. *Second semester*, M., W., 4:00-5:00.

Professor Guyer.

Omitted in 1910-11.

34. Cytology, Laboratory.—A laboratory course intended to serve as an introduction to cytological technique and to the general field of cellular biology. Each student is assigned a special problem. T., Th., 1:00-4:00. Professor Guyer.

FOR TEACHERS.

The aim of the instruction is (1) to train teachers how to observe accurately, and (2) to lead them to a satisfactory point of view from which to direct the observations of children. A laboratory fee of five dollars is charged to cover the expense of material used.

36. Animal Life.—A course for beginners. Two credits per semester for A. B. S., 8:30-12:30.

Professor Guyer and Mr. Peaslee.

Omitted in 1910-11.

37. Plant Life.—A course for beginners. Two credits per semester for A. B. S., 8:30-12:30.

Associate Professor Benedict and Mr. Lantis.

Omitted in 1910-11.

CHEMISTRY.

Professor Jones, Assistant Professor Fry, Assistant Professor Porter, Assistant Professor Goettsch, Mr. ———, Mr. ———, Mr. Smith, Mr. Hecker, Mr. von Schlichten, Mr. ———.

PREFATORY.

There never was a period when chemistry touched the various sciences and the demands of practical life at so many points as it does at the present time. This manifold relationship has made it necessary to arrange courses in chemistry which may be sufficiently varied to suit the requirements of many classes of students. A choice of consecutive courses may be made by students who are taking chemistry as a disciplinary study, and with a desire to complete a general education. Many courses have been offered which have a definite and intimate relationship to the industrial activities of modern life. Furthermore, a number of specialized courses of an advanced character have been announced to give the proper training to those students who may wish to carry on graduate work in the nature of research leading to a Master's or a Doctor's degree. For all advanced

work in chemistry students must acquire a reading knowledge of German and French very early in the course, since an acquaintance with these languages is assumed in the later work.

EQUIPMENT.

The Department of Chemistry occupies quarters in Hanna Hall Annex and the first floor of Hanna Hall. The main laboratories are devoted to general inorganic chemistry, elementary organic chemistry, qualitative and quantitative analysis. There are special laboratories arranged for courses in organic, physical, and technical chemistry. A thoroughly equipped laboratory has been provided for advanced metallurgical work. Several private laboratories are provided for instructors, and for graduate students who are engaged in research. The laboratories are open from 8.30 a. m., to 5 p. m. on every working day except Saturday, when they close at 1:00 o'clock. Concerning the laboratory fees and special deposit, see page 50.

THE LIBRARY.

A departmental library, comprising about 2,000 volumes, has quarters on the first floor of Hanna Hall. It contains complete series of the important periodicals in English, German, French, and Italian, and a large number of the current journals of chemistry are kept on file. The standard hand-books and works of reference, and many special and technical works of recent publication are available.

SPECIAL REQUIREMENTS FOR HIGHER DEGREES.

For special requirements for higher degrees see announcement of the Graduate School.

COURSES IN DETAIL.

FOR UNDERGRADUATES.

1a. General Inorganic Chemistry.—The Non-metals. It is the object of this course to give a definite idea of the fundamental laws of general chemistry and, in a connected way, to furnish a survey of the important facts concerning the chemistry of the non-metals and their compounds. The subject-matter discussed in the combined lectures, recitations, and quizzes are illustrated amply by experiments, charts, and specimens. Course 2a forms an integral part of, and must accompany Course 1a. M., W., F., 8:30-9:30.

Assistant Professor Fry, Mr. ———, Mr. Smith,
Mr. Hecker, Mr. von Schlichten, Mr. ———.

2a. General Inorganic Chemistry, Laboratory.—Two laboratory exercises per week during the first semester. Each student performs a series of experiments complementary to the subject-matter of Course 1a.

Sec. I, M., W., 9:30-12:30.
Sec. II, T., Th., 1:00-4:00.
Sec. III, M., W., 1:00-4:00. (Special permission to enter Section III must be obtained from the instructor.)

Assistant Professor Fry, Mr. ———, Mr. Smith,
Mr. Hecker, Mr. von Schlichten, Mr. ———.

3b. General Inorganic Chemistry.—The Metals. This course is a continuation of Course 1a and considers chiefly the properties of the metals and their compounds. Three hours per week during the second semester. Students who have completed Courses 1a and 2a are eligible for this course. It must be accompanied by Course 4b. M., W., F., 8:30-9:30.

Assistant Professor Fry, Mr. ———, Mr. Smith,
Mr. Hecker, Mr. von Schlichten, Mr. ———.

4b. General Inorganic Chemistry, Laboratory.—Two laboratory exercises per week during the second semester. A series of experiments complementary to the subject-matter of Course 3b.

Sec. I, M., W., 9:30-12:30.
Sec. II, T., Th., 1:00-4:00.
Sec. III, M., W., 1:00-4:00.

Assistant Professor Fry, Mr. ———, Mr. Smith,
Mr. Hecker, Mr. von Schlichten, Mr. ———.

5a. Qualitative Analysis.—Lectures and recitations on the principles and practice of qualitative analysis. Considerable emphasis is laid upon the application of the laws of chemical equilibrium and the theories of solution and of electrolytic dissociation to the practical problems of the analyst. Three exercises a week during the first semester. M., W., F., 8:30-9:30.

Professor Jones.

Prerequisite: Courses 3b and 4b.

6. Qualitative Analysis, Laboratory.—This course must accompany Course 5a. During the first few weeks of the semester the student performs the most important tests commonly used in the processes of analytical chemistry. The later work of the course will furnish abundant training in the qualitative examination of salts, minerals, alloys, etc. Two exercises a week during the first semester; two laboratory periods and one quiz period during the second semester. M., W., 1:00-4:00, or T., Th., 1:00-4:00. Professor Jones and ———.

This course may be completed in one semester if four periods a week are taken instead of two.

7b. Quantitative Analysis.—An introductory laboratory course in gravimetric and volumetric analysis. Occasional conferences are held at which analytical methods and calculations are discussed, and at which reports are submitted covering assigned reading. Three exercises a week during the second semester. T., Th., F., 1:00-4:00.

Assistant Professor Goettsch.

Prerequisite: Courses 5a and 6 (first semester).

8a. Elementary Organic Chemistry.—Three exercises per week during the first semester. The course comprises quizzes and lectures which are experimental to a certain extent, and deals with the chief classes of organic compounds of both the aliphatic and aromatic series. This course is arranged to meet the needs of those who intend to specialize in technical chemistry, in medicine, or in biology, and serves as a general introduction for those who intend to go deeper into the study of organic chemistry. M., W., F., 11:30-12:30. Professor Jones.

Prerequisite: Courses 3b and 4b.

9a. Organic Reactions and Preparations.—This is a course of laboratory practice, arranged to accompany the lectures of Course 8a. A number of simple organic substances are made with the view to furnishing, by the fewest illustrations possible, the largest variety of typical reactions and manipulations.

Sec. I, M., W., 8:30-11:30.
Sec. II, M., W., 1:00-4:00.

Professor Jones.

Prerequisite: Courses 3b and 4b.

14b. Metallurgy.—Five credit hours per week during the second semester. The course embraces the study of fuels, refractories, ferrous and non-ferrous metallurgy, and practice in metallurgical calculations. Especial emphasis is laid upon foundry and steel works processes, and excursions are made to metallurgical establishments in Cincinnati and vicinity. M., T., W., Th., F., 10:30-11:30. Assistant Professor Porter.

Prerequisite: Courses 5a, 6, and Physics 1.

15b. Assaying.—One afternoon a week during the second semester. The course consists in laboratory practice in the fire assay of ores and base metals for gold, silver, and lead. M., 1:00-4:00. Assistant Professor Porter.

Prerequisite: Course 7b.

16a. Technical Inorganic Chemistry.—Three periods a week during the first semester. Lectures and recitations upon important inorganic chemical industries. For information concerning

the details of this course, consult the announcement of the College of Engineering. M., W., F., 9:30-10:30.

Assistant Professor Goettsch.

Prerequisite: Courses 5a and 6.

17. Technical Analysis.—The course consists of analyses of typical industrial products, making use of gravimetric, volumetric, gasometric, electrolytic, and colorimetric processes. The laboratory is well equipped with instruments of precision, such as polariscopes, refractometers, colormeters, specific gravity balances, and other apparatus for rapid determinations by physical means. The aim is not so much at analyzing a large variety of products, as to study typical methods of analysis. The determinations to be made may be varied to suit individual needs. Some of the topics covered in the past have been analyses of fuel, cement, ores, iron and steel, water, gas, fertilizers, soaps, and food. *First semester*, F., 1:00-4:00, S., 8:30-11:30; *second semester*, T., Th., F., 1:00-4:00.

Assistant Professor Goettsch.

Prerequisite: Course 7b.

18b. Technical Organic Chemistry.—Three periods a week during the second semester. A continuation of Course 16a. Lectures and recitations upon selected organic chemical industries. M., W., F., 9:30-10:30. Assistant Professor Goettsch.

Prerequisite: Courses 8a, 9a, and 16a.

19a. Chemical Engineering, Laboratory.—Three afternoons a week during the first semester. The course consists in experiments on the heat treatment of metals, practice in metallography and pyrometry, and in the laboratory study of selected manufacturing operations. Collateral reading is required. T., W., Th., 1:00-4:00. Assistant Professor Porter.

Prerequisite. Courses 7b, 14b, and 17.

FOR UNDERGRADUATES AND GRADUATES.

10a. Advanced Inorganic Chemistry.—Two exercises a week during the first semester. In this course the less familiar elements and their compounds and the more recent theories of inorganic chemistry are discussed. T., Th., 8:30-9:30.

Assistant Professor Goettsch.

Prerequisite: Courses 5a, 6, and 7b. .

11a. Inorganic Preparations.—Three laboratory exercises a week during the first semester. Preparation of specimens of inorganic compounds. M., W., F., 1:00-4:00.

Assistant Professor Goettsch.

Prerequisite: Course 7b.

12. Physical Chemistry.—Lectures and recitations. A general introductory course of three exercises a week throughout the year. T., Th., S., 11:30-12:30. ————.

Prerequisite: Courses 5a, 6, and 7b; Physics, 1 year; Math. 5.

13. Physical Chemistry, Laboratory.—Two exercises a week throughout the year, illustrating the general static and dynamic methods of physical and electro-chemistry. This course must be accompanied by Course 12. Th., F., 1:00-4:00. ————.

Prerequisite: Same as Course 12.

20b. Advanced Organic Chemistry.—Lectures and conferences, embracing a systematic study of the principles and practice of organic chemistry, and treating of the modes of formation, properties, reactions, and constitution of typical members of the most important classes of organic compounds. *Second semester,* M., T., W., Th., F., 10:30-11:30.

Professor Jones.

Prerequisite: Courses 5a, 6, 7b, 8a, 9a, and a reading knowledge of German and French.

21. Advanced Organic Chemistry, Laboratory.—Practice in the preparation of a number of typical organic compounds. This course requires considerable reading in the journals of chemistry and in various hand-books and works of reference. M., W., F., 1:00-4:00. Professor Jones.

Prerequisite: As in Course 20b.

24. History of Chemistry.—This course embraces a review of the various hypotheses concerning the ultimate constitution of matter, and considers the development of the fundamental laws of the science of chemistry Special attention is directed to the classical memoirs of the Greek philosophers, the tenets of the alchemists, and those researches of the past century that have developed the atomic and structure theories of modern chemistry. Lectures, collateral readings, and papers. M., Th., 4:00-5:00. Assistant Professor Fry.

Prerequisite: 5a, 6, 8a and 9a, or 20b and 21.

28b. Elementary Spectrum Analysis (Qualitative).—The course consists largely of laboratory work. The emission (flame and electric sparks) and absorption spectra of inorganic and some organic substances are studied from the chemist's point of view. Two periods a week during the second semester; hours to be arranged. Professor Jones.

Prerequisite: 5a, 6, 8a, 9a; Physics, 1 year.

29a. Practical Photography.—One lecture and one laboratory period a week during the first semester. The course embraces a study of the exposure and development of photographic

plates; the treatment of defective negatives; the preparation and use of various printing papers; copying, enlarging, and lantern-slide making. W., 8:30-9:30; Th., 9:30-12:30.

Assistant Professor Goettsch.

PRIMARILY FOR GRADUATES.

30. Research.—This course requires at least eight periods of laboratory work per week under the direction of some instructor in the department. Problems for investigation may be chosen from the following: organic chemistry (30a), inorganic chemistry (30b), physical chemistry (30c), or industrial chemistry (30d). Professor Jones, Assistant Professor Fry, Assistant Professor Porter, Assistant Professor Goettsch.

34. Mathematical Chemistry.—A study of the application of exact and approximate mathematics in physical science. Two periods a week; hours to be arranged. ————.

Prerequisite: Chemistry 12, 13; Math. 8a, 9b.

35b. Some Special Problems and Theories of Organic Chemistry.—A critical discussion of the working hypotheses and the theories of organic chemistry. With this end in view, their application to the difficulties of certain complex cases are presented in detail. Topics for consideration are chosen from the following: optical and geometrical isomerism of compounds of carbon, nitrogen, and other elements; bivalent carbon derivatives; oxonium compounds; purine derivatives; the carbohydrates; the alkaloids; the terpines; tautomerism; the polypeptides, proteins, etc. *Second semester.* Two hours a week, to be arranged.

Professor Jones.

40. Journal Club Meetings.—Instructors and advanced students of the department present papers dealing with subjects under investigation in the department, or critical reviews of papers of general interest to those engaged in advanced work or research. All students interested in chemistry are invited to attend. Meetings are held fortnightly, and last one hour. Subjects to be discussed are announced one week in advance.

COMPARATIVE LITERATURE.

For courses offered see page 67.

ECONOMICS.

(The Sinton Professorship.)

Professor Hicks.

FOR UNDERGRADUATES.

1. **Economics.**—This course is intended to give the student a general view of the subject. It includes a study of (1) the elements of economics: wealth, value, price, competition, monopolization, production, and distribution; (2) the evolution of industry from local organization and control during the middle ages, through nationalism and the industrial revolution, to modern conditions; and (3) the leading economic problems of today. M., W., 11:30-12:30. Professor Hicks.

FOR UNDERGRADUATES AND GRADUATES.

2a. **Economic History.**—A study of the industrial development of society since the tenth century. The subjects considered include the local industry of feudalism, the manorial and guild systems; the rise of nationalism; the colonial policy and national regulation of industry under the mercantile system; the industrial revolution, 1750-1850; and the distinguishing features of the complex and highly developed economic organization of modern times, together with the problems arising therefrom. *First semester*, T., Th., 11:30-12:30. Professor Hicks.

3b. **Economic History of the United States.**—The economic development of the United States from 1789 to the present—territorial expansion and growth of population; extractive industries, especially agriculture and mining; manufactures; trade, domestic and foreign; transportation facilities: canals, railroads, and the merchant marine; experiments in money and banking; tariff; industrial corporations and trusts; labor and labor organizations; and government regulation of industry. *Second semester*, T., Th., 11:30-12:30. Professor Hicks.

4. **Current Economic Problems.**—The following subjects are studied during 1910-11:

(a) *First semester:* tariff, money, and banking.
(b) *Second semester:* public finance. M., W., 3:00-4:00.
Professor Hicks.

Course 4 is open to students who have had Course 1 or Course 6.

5. **Selected Readings.**—The primary purpose of this course is to afford opportunity for more extended study of the subjects considered in the preceding courses, but it may be taken by those

who desire to pursue systematic reading in the field of economics, provided they are prepared to enter upon such work with profit. Special attention is given to the literature of the topic selected. F., 11:30-12:30 or 3:00-4:00. Professor Hicks.

Course 5 is recommended to students who have elected Course 1, 2a, 3b, or 4. Credit, one or two hours.

PRIMARILY FOR GRADUATES.

6. **Economic Theory.**—An advanced course in the elements of economics. The work consists in a comparative study of the views of representative economists. M., 4:00-6:00.
Professor Hicks.

7. **Seminary.**—Opportunity is here given for the detailed study of specific problems in economics. Credit according to work done. W., 4:00-. Professor Hicks.

EDUCATION.

The Department of Education in the University of Cincinnati is the College for Teachers. The current edition of the announcement issued by the college contains a complete list of courses in Education offered in the University, statements as to the nature of these courses, the work prerequisite to them, the credits which may be received for them in partial fulfillment of the requirements for the several degrees and diplomas, and other information of special importance to those students who expect to become teachers.

Certain of these courses in Education may be elected by undergraduates during the senior year and be counted toward fulfilling requirements for the A. B. degree in the McMicken College of Liberal Arts. The courses which may be so counted and those which are prerequisite to them are as follows:

1. **History and Principles of Education.**—6 credits. M., W., F., 10:30-11:30. Professor Burris.

2. **Theory and Practice of Teaching.**—8 credits. Three hours' class-room work and fifteen hours of practice per semester. Hours for practice to be arranged before registration. M., W., F., 9:30-10:30. Professor Hall.

4. **School Economy.**—2 credits. F., 11:30-12:30.
Assistant Professor King.

14. **The Teaching of English.**—4 credits. M., W., 8:30-9:30.
Assistant Professor King.

16. **The Teaching of History.**—2 credits. F., 8:30-9:30.
Miss Weber.

18. Principles of Primary Instruction.—2 credits. W., 2:00-3:00. Miss Weber.

20b. The Teaching of Mathematics.—2 credits. *Second semester*, M., 11:30-12:30. Assistant Professor King.

22a. The Teaching of Geography.—2 credits. *First semester*, M., W., 11:30-12:30. Assistant Professor King.

Prerequisite Courses.

Psychology 1a and 1b.

Philosophy 5b.

Geology and Geography 1.

History 15. (For those who did not offer a year's work in American history for admission.)

Education Courses 1, 2, and 4, and eight credits for work elected in Courses 14, 16, 18, 20b and 22a, making a total of twenty-four credits, entitle the graduate to a Teacher's Diploma, conferred by the College for Teachers, and a place on the preferred list of those eligible to appointment in the Cincinnati schools.

Students may count Education as one of the two departments in each of which they are required to obtain at least sixteen credits for graduation.

Students who take Education with a view of obtaining a Teacher's Diploma should invariably consult with the Dean of the College for Teachers before registration. They will be required, in case of doubt, to give satisfactory evidence of physical qualifications for the work or teaching.

For further information, including statements in detail concerning the requirements of professional programs for those who wish to prepare for various positions in educational work, see announcement of the College for Teachers.

ENGLISH.*

COMPARATIVE LITERATURE.

(The Nathaniel Ropes Foundation for the Comparative Study of Literature.)

Professor Chandler, Associate Professor Miller, Assistant Professor McVea, Assistant Professor Van Wye, Dr. Merrill, Mr. Park.

FOR UNDERGRADUATES.

1. English Composition.—This course presents a general survey of the elementary principles of English composition and

*The announcement of courses in English and Comparative Literature is tentative; changes to be made will be announced later.

endeavors to enforce them by practice in writing. A certain amount of reading in English literature is also required.

Sec. I, M., W., F., 9:30-10:30.
Sec. II, T., Th., S., 8:30-9:30.
Sec. III, M., W., F., 10:30-11:30.
Sec. IV, T., Th., S., 10:30-11:30.
Sec. V, T., Th., S., 11:30-12:30.
Sec. VI, M., W., F., 1:00-2:00.
Sec. VII, M., W., F., 4:00-5:00.
Associate Professor Miller, Assistant Professors McVea and Van Wye, Dr. Merrill, Mr. Park.

Sec. VII, open to teachers, is not given in 1910-11.

Course 1 is required for all students in the College of Liberal Arts in the freshman year. It can not be counted towards a major in English.

2. **Advanced English Composition.**—The first semester is devoted to argumentation, the second semester to description and narration.

Sec. I, M., W., 8:30-9:30.
Sec. II, T., Th., 8:30-9:30.
Sec. III, T., Th., 10:30-11:30.
Sec. IV, T., Th., 4:00-5:00. Associate Professor Miller, Assistant Professors McVea and Van Wye, Mr. Park.

Sec. IV, open to teachers, is given in alternate years.

3. **Types of Literature.**—An appreciative rather than an historical study of the principal literary kinds—lyric, narrative verse, drama, prose fiction, and essay—illustrated by readings in representative English masterpieces. Lectures, class papers, discussions. T., Th., 9:30-10:30. Professor Chandler.

Course 3 is recommended for freshmen and sophomores.

4. **The English Essay.**—This course considers the origin and history of the English essay, and discusses its characteristics as a form of prose literature. T., Th., 11:30-12:30.
Associate Professor Miller.

Course 4 is recommended for juniors and seniors, and is given in alternate years. It is not given in 1910-11.

5. **Shakspere.**—The life and times of Shakspere, his dramatic methods, and the literary history of his plays are studied. A number of the plays are examined in detail, and most of the others, together with selected plays of Shakspere's contemporaries, are assigned for outside reading. M., W., F., 9:30-10:30.
Dr. Merrill.

6. **Victorian Poetry.**—A study of the poetical works of Tennyson, Browning, Arnold, Rossetti, and Swinburne, involving a discussion of their technic, art, growth of mind, general interpretation of life, and relation to their time. M., W., 9:30-10:30.
Professor Chandler.

Course 6 is recommended for juniors and seniors, and is given in alternate years. It is not given in 1910-11.

11. **The English Novel.**—This course considers the origin and history of the English novel, and discusses its characteristics as a form of prose literature. T., Th., 11:30-12:30.
Associate Professor Miller.

Course 11 is recommended for juniors and seniors, and is given in alternate years with Course 4.

16. **Wordsworth and his Contemporaries.**—A study of the English romantic poets of the early nineteenth century—Wordsworth, Coleridge, Scott, Byron, Shelley, and Keats—involving a discussion of their technique, art, growth of mind, general interpretation of life, and relation to their time. M., W., 9:30-10:30. Professor Chandler.

Course 16 is recommended for juniors and seniors, and is given in alternate years.

18. **American Literature.**—Irving, Hawthorne, Poe, Emerson, Longfellow, Lowell, Holmes, and some of their contemporaries. T., Th., 1:00-2:00. Assistant Professor McVea.

25. **Public Speaking and Reading Aloud.**—Control of the voice and body, correct enunciation, and practice in the effective expression of the student's own thought and of the thought of others. T., Th., 11:30-12:30.
Assistant Professor Van Wye.

Course 25 is open only to students who have passed in Course 1, and it can not be counted toward a major in English. Course 25 is recommended for students who expect to take Course 13.

13. **Debating.**—This course is intended to serve as an introduction to debating and as a preparation for effective public speaking. T., 8:30-10:30.
Assistant Professor Van Wye.

Course 13 is open to students who have passed creditably in Course 1 and Course 2 (first semester). It is recommended for seniors who are candidates for the Jones prizes.

FOR UNDERGRADUATES AND GRADUATES.

7a. **Old English Prose.**—An elementary reading course in Old English, the texts being taken from Bright's *Anglo-Saxon Reader. First semester.* M., W., F,. 10:30-11:30.
Dr. Merrill.

Course 7a is prerequisite to Courses 8b and 9, and is required of all students who choose English as a major subject. Further conditions for a major in English may be satisfied by Courses 8b, 9, or 10.

8b. Old English Poetry.—*Beowulf* or some other long poem, supplemented by readings in the history of Old English literature. *Second semester*, M., W., F., 10:30-11:30.

Dr. Merrill.

9. English Literature from the Conquest to the Death of Chaucer.—In the first semester selected works are read (Emerson, *Middle English Reader*) which illustrate the development of English literature and the English language before Chaucer. The second semester will be devoted to the life and works of Chaucer. Th., 3:00-5:00. Dr. Merrill.

Course 9 is given in alternate years.

10. The History of the English Language.—The general development of the English language, with special reference to the modern period. T., Th., 4:00-5:00. Dr. Merrill.

Course 10 is given in alternate years. It is not given in 1910-11.

Students who choose English as a major subject are required to take Courses 7a, and either 8b or 9 or 10.

12. Literary Composition.—This course considers the various prose literary forms from the point of view of original composition. Only those students are admitted to the course who satisfy the instructor of their ability to write well. Hours to be arranged. Assistant Professor McVea.

14. The English Drama before Shakspere.—The origins of the English drama and its earlier manifestations in miracle plays, moralities, and interludes are studied. M., W., F., 11:30-12:30. Associate Professor Miller.

17. Literary Criticism.—The development of English literary criticism from Ascham to Pater, with a brief discussion of American literary criticism and of the characteristics of criticism as a literary form. T., Th., 3:00-4:00.

Associate Professor Miller.

Course 17 is given in alternate years. It is not given in 1910-11.

19b. The English and Scottish Popular Ballads.—A study of the characteristics of folk-poetry and of the origin and development of the popular ballad. *Second semester*, T., Th., 9:30-10:30.

Associate Professor Miller.

Course 19b is given in alternate years. It is not given in 1910-11.

21. English Non-dramatic Poetry of the Sixteenth and Seventeenth Centuries.—A study of the development of English poetry, exclusive of the drama, from the beginning of the Elizabethan Age to the Queen Anne Period, including some special study of verse forms and a brief preliminary survey of the poetry from Chaucer to Tottel's *Miscellany*. M., W., 3:00-4:00.
Associate Professor Miller.

22. Foreign Backgrounds of English Literature.—An introduction to the literature of modern Europe, presenting a general survey of some of the more important works and tendencies since the Renaissance, with particular stress upon such as have proved influential in England. T., Th., 2:00-3:00.
Professor Chandler.

23. The Literary Movement of the Eighteenth Century.—A detailed study of the characteristics of romanticism and of their manifestation in the literature of England, France, and Germany prior to the culmination of the movement in the early nineteenth century. F., 3:30-5:30. Professor Chandler.

FOR GRADUATES ONLY.

20. Seminary.—Studies in Literary Theory.—An examination of the principal theories of literature—Greek, Roman, Italian, French, German, and English—considered historically and philosophically. The later portion of the course will be devoted to the investigation of two special problems in literary criticism: theories of the novel and theories of the comic. W., 3:30-5:30. Professor Chandler.

FOR TEACHERS.

For courses open to teachers see English 1, Sec. VII; English 2, Sec. IV; English 9; English 10; English 17; English 21; Comparative Literature 23, and Comparative Literature 20.

GEOLOGY AND GEOGRAPHY.

Professor Fenneman and Mr. Carman.

The Department of Geology and Geography occupies the fourth floor of McMicken Hall, except a part of the space used for a museum of zoology and geology. A general laboratory is used for work with maps and fossils and for work with hand specimens of rocks and minerals, with only such apparatus and reagents as may be carried in the field. A laboratory for deter-

minative mineralogy and another for microscopic petrography are equipped with appliances and instruments of the most modern type.

A seminar room contains the departmental library and current geologic and geographic periodicals, together with all reference maps, topographic, geologic, and geographic, belonging to the department. Graduate students may be allowed private desks in the petrographic laboratory, which communicates with the seminar room.

FOR UNDERGRADUATES.

1. **Physiography.**—A study of processes affecting the earth's surface; topographic forms, their origin, constant changes, and classification; influence of geographic features on habitation. The elements of meteorology and oceanography are studied briefly. After these principles, the several physiographic provinces of the United States are studied systematically. Lectures, W., F., 8:30-9:30. Laboratory, M., 2:00-4:00.*
Mr. Carman and Professor Fenneman.

2. **General Geology.**—First semester, dynamic, structural, and physiographic geology; second semester, elementary historical and economic geology. This course is not open to freshmen. Lectures, M., W., F., 10:30-11:30. Laboratory, T., Th., 2:00-4:00.* Professor Fenneman.

FOR UNDERGRADUATES AND GRADUATES.

5b. **Field Geology and Survey Methods.**—The study and mapping of assigned areas in the vicinity of Cincinnati. Students work singly or in parties of two, and submit typewritten reports with topographic and geologic maps. *Second semester.* Hours to be arranged by agreement with each party. Credit for work done. Course 2 is prerequisite. Mr. Carman.

*If the size of the class exceeds that of one laboratory section, there will be an additional laboratory section which will meet in the morning.

*7. **Meneralogy.**—This course embraces (1) geometrical study of crystal forms illustrated by wooden models; (2) description and classification of minerals, about 400 species being used in laboratory study; (3) determinative mineralogy and blowpipe analysis. T., Th., S., 8:30-9:30. Professor Fenneman.

8. **Introductory Paleontology.**—The work of this course is mainly with fossil invertebrates, their specific features, the age of the rocks which contain them, their migrations and association in societies. Recognition at sight is emphasized. Three hours; to be announced. Mr. Carman.

9. **Historical Geology.**—The rock formations of each geologic period, chiefly in North America, studied in historical order; their description, geographic distribution, and explanation; physical conditions and events attending the formation of each as known from its character and fossils; life development and faunal migrations. Three hours; to be announced. Mr. Carman.

Course 2 is prerequisite.

10. **Paleontology.**—A continuation of Course 8. Assignments of work are made to each student individually and are determined by the material available and the wishes of the student. Credit according to work done; hours to be arranged.
Mr. Carman.

12. **Petrology.**—This course embraces (1) the optical principles of mineralogy; (2) the microscopic study of minerals in rock sections; (3) a systematic study of rocks, their constitution, structure, origin, and classification. Three hours; to be arranged. Professor Fenneman.

Course 7 is prerequisite.

13. **Special Work in Geology.**—Any student in this department may, by agreement with the instructors in charge, register for individual study or investigation not described in the list of courses. Such work must be regularly supervised and approved upon examination or by the preparation of a thesis. Credit according to the value of the work.

FOR TEACHERS.

14. **General Geology for Teachers.**—Elements of dynamic, structural, physiographic, and historical geology, being identical with the corresponding parts of Course 2. Lecture, S., 8:30-9:30. Recitation and laboratory, 9:30-12:00.
Professor Fenneman.

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*Course 2 is not prerequisite to Course 7, but this is not accepted as a graduate course for students making Geology a major unless Course 2 or its equivalent has been taken.

GERMAN.

Professor Poll, Assistant Professor Lotspeich, Miss Schrader, Miss Andriessen.

FOR UNDERGRADUATES.

1. **Elementary German.**—Grammar, translation from German into English, and elementary exercises in translating into German. Sec. I, T., Th., S., 8:30-9:30; Sec. II, M., W., F., 11:30-12:30.
Assistant Professor Lotspeich and Miss Schrader.

2. **German Prose and Poetry.**—Reading at sight, grammar, composition and dictation. Sec. I, T., Th., S., 9:30-10:30; Sec. II, M., W., F., 10:30-11:30.
Assistant Professor Lotspeich and Miss Schrader.
Course 2 is open to students who have passed in Course 1.

3. **German Composition (Beginners' Course).**—German grammar, conversation, and practice in writing German. T., Th., 10:30-11:30. Miss Schrader.
Course 3 is open to students who have passed in Course 1. Courses 2 and 3 may be advantageously taken together.

*4. **Introduction to German Literature of the Eighteenth Century.**—Lessing's *Emilia Galotti*, Schiller's *Jungfrau von Orleans* and *Maria Stuart*, Goethe's *Iphigenie*, *Egmont*, *Tasso* and *Goetz von Berlichingen*. Translation and reading at sight. Practice in writing German, based on the reading. This course is conducted mainly in German. Sec. I, M., W., F., 9:30-10:30; Sec. II, M., W., F., 10:30-11:30.
Professor Poll, Miss Schrader, and Miss Andriessen.

Course 4 is open to students who have passed in Course 2. Students in this course are urged to take a composition course in addition.

21. **German Composition (Intermediate Course).**—Practice in composition, conversation and in writing German. T., Th., 9:30-10:30. Miss Schrader.
Courses 4 and 21 may be advantageously taken together.

FOR UNDERGRADUATES AND GRADUATES.

5. **History of German Literature to the Nineteenth Century,** with special study of the Classic Periods of the Twelfth and Eighteenth Centuries. Among other works the following are

*Students entering the University who have done advanced work in German may anticipate this course by passing an examination on the work as outlined above, within three weeks after matriculation.

read in 1910-11: *An Anthology of German Literature*, by Calvin Thomas; the *Nibelungenlied* (translated into modern German by R. Woerner); Lessing's *Nathan;* Schiller's *Wallenstein* and *Braut von Messina*, and Goethe's *Faust*. Lectures in German, collateral reading. M., W., F., 9:30-10:30. Professor Poll.

Course 5 is open to students who have passed in Course 4.

6. German Literature of the Nineteenth Century.—The Romantic School. The Novel. The Drama and Lyrics. Lectures, collateral reading and written reports by the class. Th., 4:00-6:00. Professor Poll.

Course 6 is open to students who have passed in Course 5.

10. German Composition (Advanced Course).—Advanced composition and practice in writing German. S., 9:30-11:30. Professor Poll.

Omitted in 1910-11.

30. Glimpses of German Life and Culture.—Papers and discussions in German. Advanced composition. S., 9:30-11:30. Professor Poll.

PRIMARILY FOR GRADUATES.

12. Interpretation of the Second Part of Faust and Study of the Legend.—Collateral reading and written reports. Th., 4:00-6:00. Professor Poll.

Course 12 is open to students who have passed in Course 5.

Omitted in 1910-11.

11. German Literature from the Reformation to the Classic Period of the Eighteenth Century.—Lectures in German and collateral reading. Th., 4:00-6:00. Professor Poll.

Course 11 is open to students who have passed in Course 5 or 6.

Omitted in 1910-11.

7. Middle High German.—Wright's *Middle High-German Primer*. Bachmann's *Mittelhochdeutsches Lesebuch*. Translation into modern German. W., 4:00-6:00. Assistant Professor Lotspeich.

8. Old High German.—Braune's *Althochdeutsche Grammatik*, and the same author's *Althochdeutsche Lesebuch* are used as text-books. Translation into modern German. During a part of the second semester the Old Saxon phonology and morphology will be studied and selections from the Heliand will be read. M., 4:00-6:00. Assistant Professor Lotspeich.

13. Gothic—Braune's *Gotische Grammatik;* reading of selections from Ulfilas; lectures on Germanic philology. M., 4:00-6:00. Assistant Professor Lotspeich.

Omitted in 1910-11.

26. Old Norse.—Kahle's *Altislaendisches Elementarbuch.* Reading of selections from the Sagas. In the second semester selected poems of the Edda will be read. W., 4:00-6:00.

Omitted in 1910-11. Assistant Professor Lotspeich.

35. History of German Literature to the Nineteenth Century.—This will be substantially the same as Course 5, slightly rearranged, however, to meet the needs of teachers. T., 4:00-6:00. Professor Poll.

9. German Seminary.—Critical study of Wolfram's *Parzival.* Th., 4:00-6:00. Professor Poll.

Omitted in 1910-11.

FOR TEACHERS.

Courses 10, 30, and 35, outlined above, are intended primarily for teachers.

GREEK.

Professor Harry and Mr. Kinsella.

Many casts of works of antique art have been installed in the Greek room and in the corridors of the University. Students in both undergraduate and graduate courses also have opportunities to study the casts in the Cincinnati Art Museum.

FOR UNDERGRADUATES.

1. Oratory—Epic Poetry—Philosophy.—Lysias, six orations; Herodotus, one book; *Iliad,* Books XIX-XXII.

The Lyric Poets.—Selections. Plato: *Protagoras; Lysis; Laches; Charmides.* Collateral reading: two orations of Lysias; two books of the *Iliad;* Plato's *Apology* and *Crito.* M., W., F., S., 9:30-10:30, throughout the year. Professor Harry.

A collateral course is offered by Mr. Kinsella for those students who are unable to attend at this hour.

2. Greek Prose Composition.—M., 10:30-11:30, throughout the year. Mr. Kinsella.

Course 2 should be taken in connection with Course 1.

3. **The Drama.**—Euripides, *Hippolytus;* Sophocles, *Oedipus Tyrannus;* Aeschylus, *Prometheus;* Aristophanes, *Nubes.* Collateral reading—Euripides: *Alcestis, Ion.* M., W., F., 10:30-11:30, throughout the year. Professor Harry.

Course 3 is open to students who have completed Course 1.

8. **The Life and the Literature of the Ancient Greeks.**—Greek Life, *first semester.* Homer and the Lyric Poets (1910-11); the Drama (1911-12), *second semester.* Th., 10:30-11:30. Professor Harry.

Students who are not acquainted with the Greek language may be admitted to Course 8, which is not open to freshmen.

9. **Elementary Greek.**—First Greek book and grammar. Xenophon. M., W., F., 9:30-10:30. Mr. Kinsella.

10. **The New Testament.**—A course in grammar and translation. Two hours or more, to be arranged with the instructor. Throughout the year. Mr. Kinsella.

Course 10 alternates with Course 16; it is omitted in 1910-11.

11. **Advanced Course in the Greek Drama.**—*Iphigenia, Antigone, Agamemnon, Aves, Ranae.* M., W., F., 10:30-11:30. Professor Harry.

Omitted in 1910-11; to be given in 1911-12.

12. **Herodotus.**—T., Th., 10:30-11:30. Mr. Kinsella.

15b. **Intermediate Greek.**—Prose composition. Homer, I-III. M., W., F., 11:30-12:30. Mr. Kinsella.

16. **Hellenistic Greek.**—Philo and other writers of this period. Two hours throughout the year; to be arranged with the instructor. Mr. Kinsella.

Course 16 alternates with Course 10.

FOR UNDERGRADUATES AND GRADUATES.

13. **Greek Art.**—A course in the grammar and history of Greek art, including architecture. Special attention is given to the spirit and principles of plastic art, to the influence of religion and athletics, to the temples and their decorations, and to the masterpieces of the great Greek sculptors. T., 10:30-11:30. Professor Harry.

The class is limited to twenty-five students.

PRIMARILY FOR GRADUATES.

5. **Rapid Reading in the Historians.**—W., 3:00-4:00. Professor Harry.

6. **Practical Exercises in Greek.**—F., 3:00-5:00.
Professor Harry.

7. **Greek Seminary.**—The Historians (1910-11); Plato (1911-12). M., 3:00-5:00. Professor Harry.

Course 7 is open to graduates and to those who have completed the undergraduate courses in Greek.

HISTORY.

Professor Whitcomb, Assistant Professor Cox, Mr. Dilworth, Miss Stecker.

FOR UNDERGRADUATES.

1. **Middle Ages.—Renaissance.**—This course includes the main facts of European history from the fall of the Roman Empire to the beginning of the Lutheran Reformation. Lectures and recitations. M., W., F., 9:30-10:30.
Professor Whitcomb, Mr. Dilworth, and Miss Stecker.

3. **Reformation. — Revolution. — Napoleon.** — Beginning with the appearance of Martin Luther, this course includes the Protestant movement in western Europe, the Bourbon period, the French Revolution, and follows the fortunes of Napoleon to 1815. Lectures and recitations. M., W., F., 10:30-11:30.
Professor Whitcomb, Mr. Dilworth, and Miss Stecker.

13. **General Course in English History.**—This course, while open to all students, is especially recommended for those who desire a general introductory course as preparatory to the study of both European and American history. The course traces the development of the English people from the earliest times to the present. The method is by lecture, text-book, and source-book. M., W., F., 1:00-2:00. Mr. Dilworth.

29. **Ancient History to 476, A. D.**—This course comprises a brief survey of the development of the principal Oriental nations; the political and the social life of the Greeks; the early political life and expansion of the Roman people, and their social and economic development under the Empire. T., Th., S., 8:30-9:30. Mr. Dilworth.

15. **General Course in American History.**—This course, while open to all, is especially recommended for those who have not had American history in the high school and for those who contem-

plate taking work in the College for Teachers. The work covers the period from the earliest discoveries to the present time and is based largely upon a text-book, supplemented by regular reports and occasional lectures. M., W., F., 8:30-9:30.
Assistant Professor Cox.

FOR UNDERGRADUATES AND GRADUATES.

25. **European History Since 1814.**—An advanced course dealing with the problems of European history in the nineteenth century. France since 1814; Germany since 1814; the Kingdom of Italy; the Eastern Question; Colonization. T., Th., 10:30-11:30. Professor Whitcomb.

Open to students who have passed in Course 3.

30. **American Colonial History.**—This course touches upon certain features of the Spanish and French colonial systems, and then considers in detail the English colonial establishments in America, the struggle between the English and French for the control of the continent, and the development of American institutions during the colonial régime. Lectures, with collateral readings and special reports. T., Th., 1:00-2:00.

Omitted in 1910-11. Assistant Professor Cox.

31. **American Revolutionary History.**—The course traces in outline the main features of the Anglo-American and Spanish-American revolutionary movements from 1763 to the announcement of the Monroe Doctrine in 1823. Lectures, with collateral readings and special reports. T., Th., 4:00-5:00.
Assistant Professor Cox.

Open to advanced students and teachers.

32. **History of the Middle Period.**—A history of American expansion and internal development from the second war with Great Britain to the close of 1853. T., Th., 1:00-2:00.
Assistant Professor Cox.

33. **The Civil War and Reconstruction.**—The course includes a survey of the causes of the Civil War and a review of the main features of the great sectional contest and of the Reconstruction period. Lectures, with collateral reading and special reports. T., Th., 4:00-5:00. Assistant Professor Cox.

Omitted in 1910-11.

38. **American Territorial Diplomacy.**—The course reviews the claims of various European nations to the American continent, and is followed by a detailed study of the diplomatic and

frontier questions involved in the territorial expansion of the United States. M., W., F., 11:30-12:30.

Assistant Professor Cox.

Open to those who have had Course 15 or its equivalent.

Omitted in 1910-11.

21. American Constitutional History.—The course treats of the development of governmental institutions during the Co lonial era, and of the important constitutional questions occurring between the Revolution and the Civil War. M., W., F., 11:30-12:30. Assistant Professor Cox.

Open to those who have had Course 13 or 15.

40. English Constitutional History.—The course traces the development of English political institutions from the Saxon period to the present times. Recommended for students who intend to enter upon the study of law, and for those who wish to specialize in American history. T., Th., 11:30-12:30.

Omitted in 1910-11. Mr. Dilworth.

44a. English History Since 1856.—This course deals with the political, economic, and religious history of England since the close of the Crimean War and with the present day problems. *First semester*, T., Th., 11:30-12:30. Mr. Dilworth.

Course 44a is open to students who have passed in Course 13 or Course 25, or who have obtained the consent of the instructor.

45b. European Law in its Historical Development.—This course includes a survey of the great systems of law which have prevailed in Europe since the disintegration of the Roman Empire. The Germanic Codes, the Canon Law, the Law Merchant, and the attempts at modern codification are treated. Special attention is given to the law of the Middle Ages. While this course may appeal to students who intend to engage in the study and practice of law, it is believed that it will be of interest to the more general student of European civilization. *Second semester*, T., Th., 11:30-12:30. Mr. Dilworth.

Course 45 is open to students who have passed in Course 1 or who have obtained the consent of the instructor.

PRIMARILY FOR GRADUATES.

34. Seminary in European History.—The Period of the Early Revolution, 1789-1791. The working out of a new political and economic system for France. The proceedings of the National Assembly will be read, requiring the ability to read French prose. Exercises in bibliography and method. This course may be elected only after a consultation. Two hours a week; to be arranged. Professor Whitcomb.

39. Seminary in American History.—Politics and Political Leaders of the Ohio Valley. The course is devoted to an intensive study, from the original sources, of selected national political issues affecting this section, and the social and economic causes underlying them. Seniors may be admitted. Two hours per week; S., 10:30-12:30. Assistant Professor Cox.

41. Seminary in Medieval History.—The work of the class will center about the reading of a chronicle. Reports, based on source material. Ability to read either French or German required. Period to be arranged. Mr. Dilworth.

Course 41 is open to properly qualified seniors.

8a. History of the Development of Spanish and Spanish-American Institutions.—The history of Spanish institutions from the fifth century to the discovery of America. Lectures, with reports by the students based upon available sources. *First semester.* Two hours a week; to be arranged.

Assistant Professor Allen, assisted by
Assistant Professors Umphrey and Cox.

Open by special permission to seniors and juniors who have had Course 1.

8b. History of the Development of Spanish and Spanish-American Institutions, Continued.—An outline of the discovery and exploration of Spanish America, with an account of the development of typical institutions in the New World. Lectures, with reports based on collateral readings. A reading knowledge of Spanish is desirable. *Second semester.* Two hours a week; to be arranged. Assistant Professor Cox, assisted by
Assistant Professors Allen and Umphrey.

Open to those who have had Course 1 or Course 15.

FOR TEACHERS.

43. English History for Teachers.—The Celtic, Roman, Anglo-Saxon, and Norman periods. S., 9:30-10:30. Mr. Dilworth.

Course 43 is also open to upper-class students by consent of the instructor.

Courses 31 and 39 (see above) are open to properly qualified teachers.

LATIN.

***Professor Burnam, Assistant Professor Allen, and Acting Assistant Professor ———.**

The work, while not neglecting the philological side of the subject, will emphasize more and more, as the student progresses,

*Absent on leave in Europe, 1910-1911.

its historical and humanitarian aspect. The University Library has the beginning of a fair special collection, chiefly devoted to the authors most read in the course. After the second year the seminary method will be used as far as possible. The students in Palaeography will find some MSS. and a considerable collection of facsimiles and treatises at their disposal.

FOR UNDERGRADUATES.

1. **Livy.—Horace.**—Selections from Livy. Selected Odes and Epodes of Horace. Lectures on the periods of Roman history comprised in the selections from Livy and on the life and times of Horace. Sec. I, M., W., F., 10:30-11:30; Sec. II, T., Th., S., 10:30-11:30. Acting Assistant Professor ———.

2. **Cicero, Tacitus, Horace.**—Cicero's *Laelius*, Tacitus' *Agricola* and *Germania*, selections from Horace's Satires and Epistles; prose composition based on the text of the *Laelius*, and lectures on Roman institutions. M., W., F., 8:30-10:30.
Acting Assistant Professor ———.

Course 2 is open to students who have completed Course 1.

3. **Cicero and Pliny.**—Selections from their correspondence; the Letter as a form of Latin literature. Lectures and reports on topics connected with Roman private life and social customs. The stereopticon will be employed when the topics under consideration suggest this mode of treatment. M., W., F., 10:30-11:30. Assistant Professor Allen.

Course 3 is open to students who have passed in Courses 1 and 2.

4. **Roman Law.**—This course will include the interpretation of selections from the principal legal texts, with lectures on the development and principles of Roman private law. Two hours a week; to be arranged. Assistant Professor Allen.

Course 4 is open to students who have completed Course 2.

6. **Roman Archaeology.**— Assistant Professor Allen.

Course 6 is omitted in 1910-11.

7. **History of the Political, Social, and Industrial Institutions of the Romans.**—Lectures and reports on collateral reading. M., W., 9:30-10:30. Assistant Professor Allen.

Course 7 is open to students who have completed Course 2.

Courses 6 and 7 are given in alternate years. Course 7 is given in 1910-11.

23. **Proseminary.**—The classical instruction in literature and rhetoric; hermeneutics and criticism; libraries and kindred topics. T., Th., 9:30-10:30. Professor Burnam.

Course 23 is omitted in 1910-11.

Courses 7 and 23 are open to seniors who have had at least two undergraduate courses and to juniors by special permission.

PRIMARILY FOR GRADUATES.

Hours in all cases to be arranged.

9. **Latin and Romance Palaeography.**—The history of the Latin alphabet in Western Europe, from A. D. 1 to the close of the fifteenth century. Students will have abundant practice in reading facsimiles. Three hours. Professor Burnam.

Course 9 must be preceded by at least four years of undergraduate work, and requires a reading knowledge of French and German.

Omitted in 1910-11.

10. **Latin Seminary.**—Cicero. Lectures; reports and papers on special topics. Attention will be directed mainly to the orations and to the political and legal institutions of the time. Three hours. Assistant Professor Allen.

24b. **Medieval Latin.**—The interpretation of selected Latin in texts dealing with the history and institutions of the Middle Ages. *Second semester.* Two hours.
Assistant Professor Allen.

12. **Graduate Study.**—Credit according to work done.
Assistant Professor Allen and
Acting Assistant Professor ————.

8a. **History of the Development of Spanish and Spanish-American Institutions.**—The history of Spanish institutions from the fifth century to the discovery of America. Lectures and reports based upon an examination of the Latin source material. This course is intended to serve as preparation for original investigation of Latin medieval texts. *First semester.* Two hours a week. Assistant Professor Allen, assisted by
Assistant Professors Cox and Umphrey.

Open to seniors and juniors by special permission.

8b. Course 8a will be continued during the second semester as Course 8b in the department of History (see page 81).

FOR TEACHERS.

Those engaged in secondary instruction in the language are earnestly requested to take Courses 9, 10, 12, and 23.

*MATHEMATICS.

Professor Hancock, Professor Slocum, Assistant Professor Moore, Miss Lawler, Mr. Kindle, Mr. Trimble.

FOR UNDERGRADUATES.

1. Algebra—Trigonometry—Analytical Geometry.—Selected portions of Algebra and the elementary Theory of Equations. Wentworth, *College Algebra;* Ashton and Marsh, *College Algebra.*

Trigonometry: Crockett, *Trigonometry;* Ashton and Marsh, *Trigonometry.*

Analytical Geometry of Two Dimensions treated from the Cartesian standpoint. Briggs-Bôcher, *Analytic Geometry;* Nichols, *Analytic Geometry.*

Sec. I, M., T., W., Th., F., 8:30-9:30.	Miss Lawler.
Sec III, M., T., W., Th., F., 10:30-11:30.	Miss Lawler.
Sec. IV, M., T., W., Th., F., 9:30-10:30.	Miss Lawler.

4a. Solid Geometry (Elementary).—Wentworth, *Solid Geometry.* T., Th., 9:30-10:30, *first semester.* Mr. Trimble.

3b. Spherical Trigonometry.—Crockett, *Spherical Trigonometry.* T., Th., 9:30-10:30, *second semester.* Mr. Trimble.

5. Calculus, Differential and Integral.—Osborne, *Calculus;* Granville, *Calculus.* M., T., Th., F., 10:30-11:30.

Sec. I, Professor Hancock. Sec. II, Mr. Trimble.

FOR UNDERGRADUATES AND GRADUATES.

6a. Advanced Analytical Geometry of Two Dimensions.—C. Smith, *Conic Sections.* Lectures. M., W., F., 10:30-11:30, *first semester.* Mr. Kindle.

Course 6a is open to graduate students and to those who have passed in Course 5.

7b. Analytical Geometry of Three Dimensions.—The plane, straight line and quadric surfaces; theory of surfaces and curves. C. Smith, *Solid Geometry.* Lectures, M., W., F., 10:30-11:30, *second semester.* Mr. Kindle.

Course 7b is open to graduate students and to those who have passed in Course 5.

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*See courses in Applied Mathematics, College of Engineering.

15. Theory of Equations, Including Determinants.—Burnside and Panton, *Theory of Equations.* Lectures. M., W., F., 10:30-11:30. Assistant Professor Moore.

Omitted in 1910-11.

8a. Advanced Integral Calculus.—Byerly, *Integral Calculus.* Lectures. M., W., F., 9:30-10:30, *first semester.*
Professor Hancock.

9b. Differential Equations.—Forsyth, *Differential Equations.* Lectures. M., W., F., 9:30-10:30, *second semester.*
Professor Hancock.

PRIMARILY FOR GRADUATES.

31. Theory of Numbers.—Algebraic Numbers.—Part I. Dedekind's theory. T., 4:00-6:00; S., 10:30-12:30.
Professor Hancock.

30. Theory of Numbers — Natural Numbers. — Lectures founded on the Berlin lectures of Kronecker, Frobenius, and Dirichlet's Zahlentheorie. T., 4:00-6:00; S., 10:30-12:30.
Omitted in 1910-11. Professor Hancock.

10a. Theory of Errors and Method of Least Squares.—Wright and Hayford, *Adjustment of Observations.* The general theory of the adjustments of observations, with applications to triangulation and the derivation of empirical formulas from experimental data. M., 4:00-5:00; Th., 4:00-6:00, *first semester.*
Professor Slocum.

11b. Fourier's Series and Spherical Harmonics.—Byerly, *Fourier's Series and Spherical Harmonics.* This course is intended as an introduction to mathematical physics. After a preliminary study of certain trigonometric series, Fourier's theorem for the development of a function into a trigonometric series is derived, and the limitations of its validity investigated. This is followed by the study of Lagrange's, Laplace's, and Lame's functions, with applications to problems in heat, electricity, potential, elasticity, etc. M., 4:00-5:00; Th., 4:00-6:00, *second semester.*
Professor Slocum.

28. Theory of Functions.—Lectures on the theory of functions of real variables. M., W., F., 9:30-10.30.
Assistant Professor Moore.

29. Theory of Functions.—Lectures on the theory of functions of a complex variable. Hours to be arranged.
Assistant Professor Moore.

16a. Theoretical Mechanics.—A modern treatment of analytical mechanics intended especially for advanced students in engineering and physics. The course is given by lectures, supplemented by references to standard texts. *First semester*, M., 4:00-5:00; Th., 4:00-6:00. Professor Slocum.

Given in 1910-11; omitted in 1911-12.

16b. The Mathematical Theory of Elasticity.—A course in the mechanics of elastic bodies, supplementary to Course 16a. The course is given mainly by lectures, supplemented by references to the works of Williamson, Webster, and A. E. H. Love. *Second semester*, M., 4:00-5:00; Th., 4:00-6:00.

Given in 1910-11; omitted in 1911-12. Professor Slocum.

26a. The History and Teaching of Mathematics.—A course in the pedagogy of mathematics, based chiefly on the historical development of the subject. Modern pedagogical theories are studied in their relation to mathematics and used as a basis for the discussion of laboratory and other special methods of instruction. *First semester*, Th., 4:00-6:00; S., 9:30-10:30.

Omitted in 1910-11. Professor Slocum.

24. Elliptic Integrals and Elliptic Functions.—The theories of Legendre, Abel, Jacobi, and of Riemann, Hermite, Weierstrass. Lectures founded on the Berlin lectures of Fuchs, Schwarz, and Weierstrass. T., 4:00-6:00; S., 10:30-12:30.

Omitted in 1910-11. Professor Hancock.

25. Application of Elliptic Functions.—The general theory of Course 24 specialized and illustrated by problems in Mechanics and in the Theory of Numbers, and through geometrical investigations, including the analytical representation of curves and surfaces. The solution of certain algebraical and differential equations. Construction of tables of elliptic integrals. The general theory of transformation. Lectures. W., 4:00-6:00; S., 11:30-12:30. Professor Hancock.

Omitted in 1910-11.

20. Theory of Maxima and Minima Involving Several Variables. The Calculus of Variations.—Lectures. W., 4:00-6:00; S., 11:30-12:30. Professor Hancock.

Omitted in 1910-11.

18a. Theory of Minimal Surfaces.—The developments of Lie, Darboux, Schwarz, and Weierstrass compared with those of earlier writers. Lectures. T., Th., S., 8:30-9:30, *first semester*.

Omitted in 1910-11. Professor Hancock.

19b. The Extended Realms of Rationality.—Lectures. T., Th., S., 8:30-9:30, *second semester.* Professor Hancock.
Omitted in 1910-11.

FOR GRADUATES ONLY.

30. Seminary.—Theoretical and experimental research in some special topic of the mechanics of rigid, elastic, fluid, or gaseous bodies. Results to be summarized in a form suitable for publication. Credit according to work done. Hours by special arrangement. Professor Slocum.

FOR TEACHERS.

14. Calculus.—M., Th., 4:00-6:00.
Professor Hancock and Mr. Kindle.

12. Algebra, Trigonometry and Analytical Geometry of Two Dimensions.—T., 4:00-6:00; S., 9:30-11:30.
Omitted in 1910-11.

23. Advanced Analytical Geometry of Two Dimensions. Analytical Geometry of Three Dimensions.—W., 4:00-6:00; S., 9:30-11:30. Professor Slocum.
Omitted in 1910-11.

13. Theory of Equations.—M., Th., 4:00-6:00.
Mr. Kindle.

17. Elementary Course in the Theory of Functions.—S., 9:30-11:30. Assistant Professor Moore.

22. Advanced Integral Calculus.—Differential Equations. W., 4:00-5:00; S., 9:30-11:30. Professor Hancock.
Omitted in 1910-11.
Courses 12, 14, 13, 22, and 23 include the same subjects as Courses 1, 5, 15, 8a and 9b, 6a and 7b, respectively, and the same credits are allowed on the Registrar's books.

PHILOSOPHY.

Professor Tawney.

FOR UNDERGRADUATES.

1a. Logic.—An introductory study of real and formal logic, including the principles of argumentation, proof, and inference. The course begins with induction, takes up deduction and falla-

cies, and closes with a brief account of the philosophical problems involved in the science of logic. *First semester*, M., W., F., 11:30-12:30. Professor Tawney.

Course 1a is open to students who have completed at least one year of University work.

2b. Introduction to Philosophy.—An outline study of the field of philosophical discussion, with an indication of its chief problems and methods of investigation. Textbook: Paulsen's *Introduction to Philosophy*. *Second semester*, T., Th., 10:30-11:30. Omitted in 1910-11. Professor Tawney.

Course 2b is open to students who have completed at least one year of University work.

FOR UNDERGRADUATES AND GRADUATES.

3a. Ancient and Medieval Philosophy.—An historical and critical account of the typical world-views of ancient Greece and Rome, together with a brief study of the course of philosophical and scientific thought in the Middle Ages. This course is of interest to undergraduates chiefly because the philosophical speculations of youth and of the untrained masses of people are found in this period of history. *First semester*, M., W., F., 9:30-10:30. Professor Tawney.

Course 3a is open to students who have completed at least one year of University work.

4b. Modern Philosophy.—An historical account of the transition from medieval to modern philosophy; the beginnings of scientific freedom, followed by a study of the intellectualism and empiricism of the seventeenth century; the critical philosophy of Kant; transcendentalism in Germany, England, and America; agnosticism and positivism; the evolution philosophy; absolute idealism, realism, and pragmatism. *Second semester*, M., W., F., 9:30-10:30. Professor Tawney.

Course 4b is open to students who have completed at least one year of University work. Students are advised to take either 2b or 3a before entering 4b.

5b. Ethics.—This is an introductory study of the moral ideas and institutions of man with some reference to the relation between morality on the one side, and political and ecclesiastical sanctions on the other. It begins with the origin and growth of morality in the race and the individual, and includes some account of the moral problem of our present society. *Second semester*, M., W., F., 10:30-11:30. Professor Tawney.

Course 5b is open to students who have completed at least two years of University work.

6a. Political Philosophy.—A study of the principles of political organization, including the origin of the state, the relation of morality to legislative enactment, the concepts of natural law, natural right, the general will, and the rule of majorities. *First semester*, M., W., F., 10:30-11:30. Professor Tawney.

Course 6a is open to students who have completed at least two years of University work.

8b. Principles of Science and the Theory of Scientific Method. This course begins with a rapid review of Course 1a and includes an outline of the method of science in general and special study of the methods of special groups of sciences, such as the mathematics, biology, physics, psychology. Some reference will be made to relations between scientific method and the method of judgment in other than scientific fields. *Second semester*, M., W., F., 11:30-12:30. Professor Tawney.

Prerequisite: Course 1a.

PRIMARILY FOR GRADUATES.

7. Types of Epistemology and Metaphysics.—A critical study of idealism, realism, agnosticism, and pragmatism as exemplified in the writings of modern, chiefly nineteenth century writers: T. H. Green, F. H. Bradley, Josiah Royce, William James, John Dewey, Herbert Spencer, Auguste Comte, Lotze, G. E. Moore, Woodbridge, and others. Two hours, throughout the year. Th., 11:30-1:30. Professor Tawney.

Omitted in 1910-11.

9. Ethical and Epistemological Problems.—A study of the problems of ethics and epistemology from the standpoint of evolution. Two hours, to be arranged. Professor Tawney.

Prerequisite: Courses 1a, 3a, and 4b, or their equivalents.

10. English Empiricism in the Eighteenth Century.—A study of the most important of the philosophical works of Hobbes, Locke, Berkeley, and Hume, with especial reference to their influence on nineteenth century thought. Two hours, to be arranged. Professor Tawney.

Prerequisite: Courses 3a and 4b, or their equivalents.

12a. Philosophical Method.—A study of the logic of certain typical philosophical tendencies and of the group of philosophical disciplines. The theme of the course might be called the methodology of reflection. *First semester*, W., 8:30-9:30, 10:30-11:30.

Omitted in 1910-11. Professor Tawney.

FOR TEACHERS.

11. **Educational Philosophy.**—An historical, critical, and constructive discussion of relations between certain typical philosophical tendencies and the theory and practice of education. S., 9:30-10:30. Professor Tawney.

13. **Logic.**—An introductory course in inductive and deductive logic, with special reference to methods of class-room instruction. S., 9:30-10:30. Professor Tawney.

Omitted in 1910-11.

Those interested in Philosophy should also consult courses under "Biblical Literature."

PHYSICAL EDUCATION.

Mr. Brodbeck, Miss Edwards.

Physical Training for Men.—Two hours' work each week in the gymnasium is prescribed for all members of the freshman and sophomore classes, except for students who are giving a part of their time to professional studies (law, medicine, or theology). With them participation is voluntary. In addition to this, a course of lectures on hygiene, physical education, and first aid to the injured, one hour per week, is required of all freshmen.

A physical examination is required of each student of the two lower classes upon entrance and upon completion of the required work. Appointments for the examination must be made with the Physical Director at the beginning of the first semester.

The work prescribed for these classes has been arranged with a view to securing three main objects: health and organic vigor, bodily control and efficiency, erect carriage and symmetrical development. The work will consist of free movements with and without hand apparatus, executed simultaneously by the whole class; progressive apparatus work in graded squads, under trained leaders; and gymnastic games.

Credit: One credit will be given for each semester's work.

Hours—**Phys. Ed. 1** (Freshmen). Gymnasium, W., F., 4:00-5:00, Friday, 1:30-2:30; Lecture, F., 3:00-4:00.

Phys. Ed. 2 (Sophomores), M., W., 3:00-4:00; T., Th., 4:00-5:00. Boxing, wrestling, fencing, M., 4:00-5:00 (voluntary).
Mr. Brodbeck.

Physical Training for Women.—The work is arranged with a view to obtaining the best hygienic, corrective, and recreative results. A physical examination will be made at the beginning of the freshman and at the end of the sophomore year.

The class-work includes free exercises, with and without hand apparatus; fancy steps, national and folk dances, and games. Definite periods during the week will be arranged for basketball and indoor baseball. In the spring and fall part of the work, including tennis, will be done out of doors.

The course for freshmen consists of three hours' attendance per week throughout the year. Two hours each week are spent in exercising in the gymnasium; the other hour is devoted to lectures on hygiene. The lectures must be attended by every member of the freshman class, irrespective of the fact that she may be excused from the gymnasium work.

The course for sophomores consists of two hours of exercise in the gymnasium, prescribed for all members unless excused by the Director of Physical Education or on a physician's certificate.

Credit: One credit will be given for each semester's work.

Hours—**Phys. Ed. 1** (Freshmen), M., W., 2:00-3:00, T., Th., 10:30-11:30; Lecture, F., 2:00-3:00.

Phys. Ed. 2 (Sophomores), T., Th., 11-30-12:30, 1:00-2:00.

Miss Edwards.

Voluntary Class.—T., Th., 9:30-10:30.

PHYSICS.

Professor More, Associate Professor Ives, Assistant Professor Allen, Dr. Carter, Mr. Evens, Mr. Rieman, Mr. Lorenz.

The Department of Physics occupies the first floor and the the larger part of the basement of Cunningham Hall. The former contains lecture and recitation rooms, offices, library and general laboratories. In the basement are the shops and a number of small rooms fitted for advanced work.

The department is supplied with modern apparatus for illustrating lectures, and for both general and advanced laboratory work. The stock is also being largely increased. A skilled mechanician is employed in making and repairing apparatus. Every facility will be offered students requiring specially constructed apparatus.

The library of the department contains the best works in Physics, and the important journals are on file.

FOR UNDERGRADUATES.

26a. General Physics.—Lectures and recitations on mechanics, sound, and heat, illustrated with lecture experiments. *First semester*, M., W., F., 11:30-12:30.

Professor More and Mr. Rieman.

27b. General Physics.—Lectures and recitations on light, electricity and magnetism, illustrated with lecture experiments. *Second semester*, M., W., F., 11:30-12:30.

Professor More and Mr. Rieman.

N. B.—The above new courses are designed for students in the College of Liberal Arts only; they may be elected in the freshman year. They will present the fundamental laws and phenomena of physics, and will be non-mathematical in treatment. Taken with Courses 2a and 22b, Experimental Physics, they satisfy the science requirement.

2a. Experimental Physics. — Laboratory work arranged to accompany General Physics. *First semester.*

Associate Professor Ives, Dr. Carter, Mr. Lorenz.

Sec. I, Th., S., 8:30-11:30.
Sec. II, T., Th., 1:00-4.00.
Sec. III, M., W., 1:00-4.00.
Sec. VI, W., F., 1:00-4:00.

22b. Experimental Physics.—Laboratory work arranged to accompany General Physics. *Second semester.*

Associate Professor Ives, Dr. Carter, Mr. Lorenz.

Sec. I, Th., S., 8:30-11:30.
Sec. II, T., Th., 1:00-4.00.
Sec. III, M., W., 1:00-4:00.
Sec. VI, W., F., 1:00-4:00.

4. Advanced Experimental Physics.—Experiments in photometry, spectrum analysis, calibration of weights and thermometers, etc., requiring exact measurement. Twice weekly. It may be elected either semester. Associate Professor Ives.

FOR UNDERGRADUATES AND GRADUATES.

3a. Theoretical Mechanics.—A course of lectures on the mathematical laws of mechanics. Professor More.

Omitted in 1910-11.

18b. Theory of Electricity and Magnetism.—A course of lectures on the mathematical laws of electricity and magnetism. Professor More.

Omitted in 1910-11.

19a. Theory of Heat.—A course of lectures on the mathematical laws of heat. *First semester.* Three times weekly.

Professor More.

15b. Theory of Light.—A course of lectures on the mathematical laws of light. *Second semester.* Three times weekly.
Professor More.

The above courses may be elected for a minor in Physics, the following courses for a major, in graduate work.

8. Experimental Physics.—The exact determination of some of the standard and classical experiments. Credit given according to work done. Professor More.

10. Seminary.—The reading and discussion of papers in physical journals. T., 4:00-5:00. Professor More.

16. Physical Manipulations.—A series of exercises in scientific shop-work. Shop-work; soldering and metal-working, screw-cutting and elementary lathe-work. Glass-work and physical processes; glass-blowing, cutting, grinding, polishing, silvering; fiber suspensions and preparations useful in the laboratory. S., 8:30-1:00. Mr. Evens.

Omitted in 1910-11.

20b. Ionization and Radio-activity.—A course of lectures and experimental demonstrations on the discharge of electricity through gases and the properties of the radio-active substances. *Second semester,* twice weekly. Assistant Professor Allen.

17a. Electric Waves and Wireless Telegraphy.—A course of lectures on the radiation emitted by electric and magnetic oscillators, with applications to wireless telegraphy and the theory of light. *First semester.* Twice weekly.
Associate Professor Ives.

FOR GRADUATES ONLY.

7. Lectures on Theoretical Physics.—This course is designed to include three years' work. In 1910-11 the lectures discuss the theory of heat and generalized coordinates; 1911-12, light; 1912-13, electricity and magnetism. Twice weekly.
Professor More.

25a. Theoretical Mechanics.—See under Mathematics 16a.
Professor Slocum.

9. Research.—Those electing this course are supplied with all the apparatus needed, and the assistance of the Mechanician is at their disposal. Daily.
Professor More, Associate Professor Ives,
and Assistant Professor Allen.

ten weeks no instruction is given at night. The Winter Term extends from September 26, 1910, to May 26, 1911, the Summer Term from the middle of June to the end of August.

The following courses of instruction are offered:

1. **Free-hand Drawing.**—From objects and casts. Day classes, M., W., F., 8:45-12:45, or M., W., 1:30-4:30, and S., 8:45-12:45. Night Classes, T., Th., F., 7:15-9:15.

Miss Young, Miss Miller, Miss Wilson, and Mr. Tracy.

Color work in oils, water colors or pastels is also taught in the day classes, but not at night.

2. **Drawing and Painting from Life.**—Figure or head. Day classes, M., T., W., Th., F., S., 8:45-12-45, and M., T., W., Th., F., 2:00-4:00. Night classes, M., T., W., Th., F., 7:15-9:15.

Mr. Duveneck, Mr. Meakin, and Mr. Wessel.

Artistic Anatomy is a part of this course. The night classes draw the head or figure from life.

3. **Modeling.**—From casts. Day classes, T., Th., S., 8:45-12:45. Night classes, M., W., 7:15-9:15. Mr. Barnhorn.

4. **Modeling. Advanced Course.**—From life. Day classes, T., Th., S., 8:45-12:45. Night classes, M., W., 7:15-9:15.

Mr. Barnhorn.

5. **Wood Carving.**—M., W., F., 12:30-4:30 and S., 8:45-12:45.

Mr. Fry.

6. **Decorative Design.**—The principles of design, preparation of decorative motives, and their application to metals, enamels, leather, porcelain, etc. T., W., Th., F., 1:30-4:00.

Miss Riis.

From the courses above offered, a student may elect not more than six hours in any one semester. Not more than twelve hours of work in the Art Academy will be credited for the degree of Bachelor of Arts.

versity of Cincinnati, and by reading, conferences, and the preparation of reports on neighborhood conditions and club work. Credit for one hour a semester is given for work of one hour a week at the Settlement in the leadership of clubs or classes, attendance at monthly conferences of workers, preparation of reports on reading, and club work.

Head-Resident Miner and Professor Brooks.

Course 9 is not open to freshmen.

FOR UNDERGRADUATES AND GRADUATES.

4b. Political Parties and Party Problems.—A study of the organization, methods, and aims of existing political parties in the United States. The following subjects will be discussed: theory of the party system, primary and convention system, permanent party organization, the financing of parties, elements of cohesion in parties, and the principal recent aims pursued by political parties. *Second semester*, T., Th., 2:00-3:00.

Professor Brooks.

7a. Modern Sociology.—Lectures and assigned readings on the social theories of Comte, Mill, Spencer, Schaeffle, Gumplowicz, Tarde, Mackenzie, Ward, Giddings, and others. Particular attention is given to the consequences of the theories of these writers in the field of practical social reform. *First semester*, T., Th., 2:00-3:00. Professor Brooks.

11a. Municipal Government.—A comparative study of municipal government in the principal countries of Europe, England, and the United States, with particular reference to the reforms advocated in the latter country. Special financial and social problems of city life, such as municipal ownership, taxation of unearned increment, the drift of population to urban centers, the housing problem, sanitation, provision of facilities for recreation, the child problem in cities, etc., are also discussed. *First semester*, T., Th., 1:00-2:00. Professor Brooks.

12b. The Government of Cincinnati.—A somewhat detailed study of the organization and functions of the government of Cincinnati. Particular attention is given to the special municipal problems involved in the contemporary development of the city, and to the relations existing between its government and the government of the state of Ohio and Hamilton County. *Second semester*, T., Th., 1:00-2:00. Professor Brooks.

15. Modern Philanthropy.—A study of the problems of charity and penology. Treatment of the pauper, feeble-minded, insane, and of dependent children. Reform suggestions regarding the best methods of dealing with these classes. Problems of crime.

The criminal, jails, prisons, reformatories, and preventive agencies. Proposed reforms. Readings, visits to charitable and penal institutions or other field work, reports. M., W., 2:00-3:00.
Professor Brooks.

17. **Selected Readings and Field Work.**—Designed to afford opportunity for the more thorough study of the subjects considered in the preceding courses, but may be elected separately by students who have already completed one full year's work either in the department of Political and Social Science or in the department of Economics. Special attention will be given to bibliography, statistical presentation, and the preparation of reports in standard form. F., 2:00-3:00. Professor Brooks.

Course 17 is recommended for students who have elected Courses 4b, 11a, 12b, and 15. Credit, one or two hours.

PRIMARILY FOR GRADUATES.

3. **Seminary in the History of Political Ideas.**—A study of the development of political thought. The first part of the course is devoted to a series of lectures on Oriental, Greek, Roman, and medieval political ideas, students being assigned collateral reading in Aristotle, Plato, Polybius, St. Augustine, Thomas Aquinas, Dante, and others. The political philosophers of later date are studied principally from their writings, particular attention being given to Machiavelli, Bodin, Hobbes, Locke, Montesquieu, Rousseau, Burke, Bentham, Mill, Maine, and Seeley. The relationship between the systems of the various philosophers and the history of their times will receive special attention. M., 3:15-5:15. Professor Brooks.

PSYCHOLOGY.

Professor Breese and Mr. Lurie.

The department occupies two rooms on the second floor of McMicken Hall. One of these rooms is devoted to the laboratory, which is equipped with the apparatus necessary for carrying out the typical experiments in experimental psychology. The aim of the courses in this department is to give a comprehensive account of the facts of mental life and the methods of investigating them, and to point out the stages of mental development in the race and in the individual. For teachers and those intending to teach there are offered special courses dealing particularly with mental development and the application of psychology to education.

FOR UNDERGRADUATES

1a. **Introductory Psychology.**—An analytical study of mental phenomena, with special attention to accurate observation and

description. A general account of the subject matter of psychology. *First semester.* M., W., F., 11:30-12:30.

Professor Breese.

1b. Introductory Psychology.—A continuation of 1a. *Second semester.* M., W., F., 11:30-12:30. Professor Breese.

FOR UNDERGRADUATES AND GRADUATES.

2a. Experimental Psychology.—Laboratory course. *First semester.* M., W., F., 9:00-11:30.

Professor Breese and Mr. Lurie.

2b. Experimental Psychology.—A continuation of 2a. *Second semester,* M., W., F., 9:00-11:30.

Professor Breese and Mr. Lurie.

PRIMARILY FOR GRADUATES.

3. Research.—Special investigation in the psychological laboratory. Hours to be arranged. Professor Breese.

4. Seminar.—A critical study of the most important problems in psychology. Reports and discussions. Hours to be arranged.

Professor Breese.

6a. Educational Psychology.—The experimental and statistical methods in mental measurements. Intended for advanced students and teachers of experience. *First semester,* M., W., F., 2:00-3:00. Professor Breese.

FOR TEACHERS.

5. Genetic Psychology.—Mental development with special attention to educational practice. One credit per semester for A. B. S., 11:30-12:30. Professor Breese.

ROMANCE LANGUAGES.

Professor Ogden, Assistant Professor Umphrey, Miss Kiely.

FOR UNDERGRADUATES.

1. Elementary French.—Fraser and Squair, *French Grammar and Reader;* Dumas, *L'Evasion du Duc de Beaufort;* Malot, *Sans Famille;* Labiche, *La Grammaire;* Daudet, *Le Petit Chose.* Composition based on Fraser and Squair's *French Reader.*

Sec. I, M., W., F., 10:30-11:30; Sec II, T., Th., S., 10:30-11:30.

Miss Kiely.

2. Intermediate French.—*First semester,* Fraser and Squair's *French Grammar,* Part II; François, *French Prose Composition;* dictation and assigned reading from nineteenth century writers. *Second semester,* introductory study of French litera-

THE UNIVERSITY OF CINCINNATI

COMPRISES THE FOLLOWING DEPARTMENTS:

I.

THE GRADUATE SCHOOL.

II.

THE McMICKEN COLLEGE OF LIBERAL ARTS.

III.

THE COLLEGE FOR TEACHERS.

IV.

THE COLLEGE OF ENGINEERING.
(Mechanical, Electrical, Civil, and Chemical Engineering.)

V.

THE COLLEGE OF LAW.
(The Cincinnati Law School.)

VI.

THE OHIO-MIAMI MEDICAL COLLEGE.
(The Ohio and the Miami Medical Colleges united.)

VII.

THE DEPARTMENT OF CLINICAL MEDICINE.
(The Clinical and Pathological School of the Cincinnati Hospital, Affiliated.)

For the announcement or further information regarding the Medical College address the *SECRETARY OF THE FACULTY*, Ohio-Miami Medical College, Clifton Avenue; for the other departments, the *SECRETARY OF THE UNIVERSITY*, Burnet Woods, Cincinnati, Ohio.

THE OHIO-MIAMI MEDICAL COLLEGE.

CALENDAR 1910–1911.

1910.

Sept. 1, Thursday–Sept. 3, Saturday:
Inspection of preliminary credentials by the Ohio State Board.
State Board examinations for entrance.

Sept. 5, Monday–Sept. 6, Tuesday:
Examinations in the sciences and language for entrance.

Sept. 23, Friday–Sept. 24, Saturday:
Reexamination in the sciences and language for entrance.
Examinations for removing conditions.

Sept. 26, Monday–Sept. 27, Tuesday:
Days of registration.

September 28, Wednesday:
First semester begins.

Sept. 30, Friday–Oct. 1, Saturday:
Examinations for removing conditions.

Nov. 24, Thursday–Nov. 26, Saturday:
Thanksgiving recess.

December 22, Thursday (8:30 a. m.):
Christmas vacation begins.

1911.

January 2, Monday:
Work resumed.

Jan. 30, Monday–Feb. 4, Saturday:
First semester examinations.

February 6, Monday:
Second semester begins.

February 22, Wednesday:
Holiday, Washington's Birthday.

May 22, Monday–May 27, Saturday:
Second semester examinations.

May 30, Tuesday:
Holiday, Memorial Day.

June 3, Saturday:
Commencement.

OFFICERS OF

ADMINISTRATION AND INSTRUCTION.

CHARLES WILLIAM DABNEY, Ph. D., LL. D., *President of the University.*

————————, *Dean of the Medical College.*

E. OTIS SMITH, M. D., *Secretary of the Medical Faculty.*

J. C. MACKENZIE, M. D., *Clinical Professor of Medicine, Emeritus.*

CHAUNCEY D. PALMER, M. D., *Professor of Obstetrics and Gynecology, Emeritus.*

BYRON STANTON, M. D., *Professor of Diseases of Women and Children, Emeritus.*

N. PENDLETON DANDRIDGE, A. M., M. D., *Professor of Surgery, Emeritus.*

ALEXANDER GREER DRURY, A. M., M. D., *Professor of Hygiene, Emeritus.*

STEPHEN COOPER AYRES, A. M., M. D., *Professor of Ophthalmology, Emeritus.*

PHILIP ZENNER, A. M., M. D., *Professor of Neurology, Emeritus.*

The names of the teaching staff are arranged by departments:

HENRY McELDERRY KNOWER, Ph. D., *Professor of Anatomy.*

EDWARD F. MALONE, M. D., *Assistant Professor of Anatomy.*

HARRY LEWIS WIEMAN, Ph. D., *Instructor in Histology and Embryology.*

LEON DENNING PEASLEE, A. M., *Assistant in Histology and Embryology.*

MARTIN HENRY FISCHER, M. D., *Professor of Physiology.*

————————, *Instructor in Physiology.*

LAUDER W. JONES, Ph. D., *Professor of Chemistry.*

HARRY SHIPLEY FRY, Ph. D., *Associate Professor of Chemistry.*

EDWARD B. REEMELIN, A. B., M. D., *Assistant Professor of Chemistry and Physiological Chemistry.*

PAUL GERHARDT WOOLLEY, B. S., M. D., *Professor of Pathology and Director of Laboratory.*

WILLIAM BUCHANAN WHERRY, A. B., M. D., *Assistant Professor of Bacteriology and Bacteriologist of Laboratory.*

CHARLES GOOSMANN, M. D., *Demonstrator of Pathology.*

JULIUS H. EICHBERG, Ph. G., Ph. D., M. D., *Professor of Materia Medica, Pharmacology, and Therapeutics.*

C. C. FIHE, M. D., *Lecturer in Dietetics and Instructor in Therapeutics.*

RUFUS SOUTHWORTH, A. B., M. D., *Instructor in Therapeutics.*

J. HENRY SCHROEDER, M. D., *Instructor in Pharmacology.*

WILLIAM C. HERMAN, M. D., *Instructor in Pharmacology.*

H. KENNON DUNHAM, M. D., *Lecturer and Demonstrator of Electrotherapeutics.*

LOUIS G. SCHRICKEL, Ph. G., M. D., *Instructor in Pharmacy and Pharmacist to Dispensary.*

FREDERICK FORCHHEIMER, M. D., *Professor of Medicine.*

GEORGE A. FACKLER, M. D., *Professor of Clinical Medicine.*

OLIVER P. HOLT, M. D., *Associate Professor of Medicine.*

EDWIN W. MITCHELL, A. B., M. D., *Clinical Professor of Medicine.*

JOHN ERNEST GREIWE, A. M., M. D., *Associate Professor of the Practice of Medicine.*

MARK A. BROWN, M. D., *Associate Professor of the Practice of Medicine.*

HENRY WALD BETTMANN, B. L., M. D., *Adjunct Professor of the Practice of Medicine.*

ALLAN RAMSEY, B. S., M. D., *Assistant Professor of the Practice of Medicine.*

CHARLES SUMNER ROCKHILL, M. D., *Clinical Instructor in Medicine.*

C. C. FIHE, M. D., *Clinical Instructor in Medicine.*

LOUIS G. HEYN, M. D., *Clinical Instructor in Medicine.*

MARION WHITACRE, M. D., *Clinical Instructor in Medicine.*

OSCAR BERGHAUSEN, A. B., M. D., *Clinical Instructor in Medicine.*

ROBERT INGRAM, M. D., *Clinical Instructor in Medicine.*

WALTER HENRY STIX, M. D., *Clinical Instructor in Medicine.*

HENRY LYNDE WOODWARD, M. D., *Demonstrator of Clinical Microscopy in Medicine.*

B. K. RACHFORD, M. D., *Professor of Pediatrics.*

ALLYN CILLEY POOLE, A. B., M. D., *Clinical Professor of Pediatrics.*

ALBERT JAMES BELL, A. B., M. D., *Assistant Clinical Professor of Pediatrics.*

FRANK H. LAMB, A. M., M. D., *Assistant Clinical Professor of Pediatrics.*

ALFRED FRIEDLANDER, A. B., M. D., *Assistant Clinical Professor of Pediatrics.*

HENRY LYNDE WOODWARD, M. D., *Clinical Instructor in Pediatrics.*

MAX DREYFOOS, M. D., *Clinical Instructor in Pediatrics.*

ROBERT STEVENSON, M. D., *Clinicial Instructor in Pediatrics.*

FRANCES M. HOLLINGSHEAD, M. D., *Clinical Instructor in Pediatrics.*

FRANK WARREN LANGDON, M. D., *Professor of Psychiatry.*

HERMAN HENRY HOPPE, A. M., M. D., *Professor of Neurology.*

DAVID I. WOLFSTEIN, M. D., *Assistant Clinical Professor of Nervous Diseases.*

J. L. TUECHTER, A. B., M. D., *Clinical Instructor in Neurology.*

MEYER L. HEIDINGSFELD, Ph. B., M. D., *Professor of Dermatology and Syphilology.*

AUGUSTUS RAVOGLI, A. M., M. D., *Clinical Professor of Dermatology and Syphilology.*

ELMORE B. TAUBER, M. D., *Clinical Instructor in Dermatology and Syphilology.*

JAMES W. MILLER, M. D., *Clinical Instructor in Dermatology and Syphilology.*

JOSEPH RANSOHOFF, M. D., F. R. C. S. (Eng.), *Professor of Surgery.*

JOHN CHADWICK OLIVER, M. D., *Professor of Clinical Surgery.*

EDWARD WOOD WALKER, A. B., M. D., *Professor of Clinical Surgery.*

CHARLES EDWARD CALDWELL, A. M., M. D., *Associate Professor of Surgical Anatomy and Clinical Professor of Surgery.*

HORACE J. WHITACRE, B. S., M. D., *Associate Professor of the Principles of Surgery.*

SIMON PENDLETON KRAMER, M. D., *Adjunct Professor of Surgery.*

E. OTIS SMITH, M. D., *Adjunct Professor of Genito-Urinary Diseases.*

FRANK FEE, M. D., *Assistant Clinical Professor of Surgery.*

CARL HILLER, M. D., *Assistant Clinical Professor of Surgery.*

HARRY HAYES HINES, M. D., *Assistant Clinical Professor of Surgery.*

CASPER F. HEGNER, M. D., *Clinical Instructor in Surgery.*

GOODRICH BARBOUR RHODES, A. B., M. D., *Clinical Instructor in Surgery.*

CHARLES A. LANGDALE, M. D., *Clinical Instructor in Surgery.*

JOHN A. CALDWELL, M. D., *Clinical Instructor in Surgery.*

DUDLEY WHITE PALMER, B. S., M. D., *Clinical Instructor in Surgery.*

DUDLEY WEBB, M. D., *Assistant Clinical Instructor in Genito-Urinary Surgery.*

E. S. MAY, M. D., *Assistant Demonstrator and Clinical Instructor in Surgery.*

JOSEPH L. RANSOHOFF, M. D., *Assistant Demonstrator and Clinical Instructor in Surgery.*

ALBERT HENRY FREIBERG, M. D., *Professor of Orthopedic Surgery.*

ROBERT CAROTHERS, M. D., *Clinical Professor of Orthopedic Surgery.*

CHARLES R. McCLURE, M. D., *Clinical Instructor in Orthopedic Surgery.*

ROBERT DANIEL MADDOX, M. D., *Clinical Instructor in Orthopedic Surgery.*

E. GUSTAV ZINKE, M. D., *Professor of Obstetrics.*

WILLIAM D. PORTER, A. M., M. D., *Clinical Professor of Obstetrics.*

GEORGE M. ALLEN, M. D., *Clinical Professor of Obstetrics.*

JAMES WILLIAM ROWE, A. B., M. D., *Assistant Professor of Obstetrics.*

F. A. S. KAUTZ, M. D., *Clinical Instructor in Obstetrics.*

WILLIAM O. PAULI, M. D., *Clinical Instructor in Obstetrics.*

WILLIAM B. YOUNG, M. D., *Assistant Clinical Instructor in Obstetrics.*

LOUIS A. MOLONY, M. D., *Assistant Clinical Instructor in Obstetrics.*

WILLIAM S. KAUTZ, M. D., *Assistant Clinical Instructor in Obstetrics.*

CHARLES LYBRAND BONIFIELD, M. D., *Professor of Gynecology.*

CHARLES ALFRED LEE REED, A. M., M. D., *Professor of Clinical Gynecology.*

JOHN M. WITHROW, A. M., M. D., *Professor of Clinical Gynecology.*

RUFUS BARTLETT HALL, A. M., M. D., *Professor of Clinical Gynecology.*

SIGMAR STARK, M. D., *Professor of Clinical Gynecology.*

JOHN D. MILLER, M. D., *Clinical Instructor in Gynecology.*

GREAR H. BAKER, M. D., *Clinical Instructor in Gynecology.*

JOSEPH A. HALL, M. D., *Clinical Instructor in Gynecology.*

R. R. WILKINSON, M. D., *Clinical Instructor in Gynecology.*

ROBERT SATTLER, M. D., *Professor of Ophthalmology.*

DERRICK T. VAIL, M. D., *Clinical Professor of Ophthalmology.*

WALTER FORCHHEIMER, A. B., M. D., *Clinical Professor of Ophthalmology.*

CHARLES W. TANGEMAN, M. D., *Clinical Professor of Ophthalmology.*

VICTOR RAY, M. D., *Assistant Clinical Professor of Ophthalmology.*

WYLIE McLEAN AYRES, A. B., M. D., *Assistant Clinical Professor of Ophthalmology.*

FREDERICK W. LAMB, M. D., *Clinical Instructor in Ophthalmology.*

JOHN RANLY, M. D., *Clinical Instructor in Ophthalmology.*

FRANK B. CROSS, M. D., *Assistant Clinical Instructor in Ophthalmology.*

CLARENCE J. KING, M. D., *Assistant Clinical Instructor in Ophthalmology.*

MICHAEL BEHRMAN, A. B., M. D., *Assistant Clinical Instructor in Ophthalmology.*

JESSIE SOUTHGATE, M. D., *Assistant Clinical Instructor in Ophthalmology.*

CHRISTIAN R. HOLMES, M. D., *Professor of Otology.*

JOHN ALBERT THOMPSON, B. S., M. D., *Professor of Laryngology.*

SAMUEL ELLSWORTH ALLEN, M. D., *Clinical Professor of Laryngology and Otology.*

JOHN WESLEY MURPHY, A. M., M. D., *Clinical Professor of Laryngology and Otology.*

SAMUEL IGLAUER, B. S., M. D., *Associate Professor of Otology and Clinical Instructor in Rhinology, Laryngology, and Otology.*

WALTER E. MURPHY, M. D., *Associate Professor of Laryngology and Clinical Instructor in Rhinology, Laryngology, and Otology.*

WADE THRASHER, M. D., *Clinical Instructor in Rhinology, Laryngology, and Otology.*

G. A. HINNEN, B. S., M. D., *Clinical Instructor in Rhinology, Laryngology, and Otology.*

WILLIAM MITHOEFER, M. D., *Assistant Clinical Instructor in Rhinology, Laryngology, and Otology.*

W. J. THOMASSON, M. D., *Assistant Clinical Instructor in Rhinology, Laryngology, and Otology.*

SOPHIA DAUCH, M. D., *Assistant Clinician in Rhinology, Laryngology, and Otology.*

JOHN HOWARD LANDIS, M. D., *Professor of Hygiene.*

SHALER BERRY, S. B., LL. B., M. D., *Lecturer on Medical Jurisprudence and Economics.*

SIDNEY LANGE, A. B., M. D., *Lecturer and Demonstrator of Radiology.*

OTHER OFFICERS.

ALBERT HENRY FREIBERG, M. D., *Supervisor of Clinics at College Dispensary.*

ROBERT DANIEL MADDOX, M. D., *Curator of Museum.*

DANIEL LAURENCE, B. S., *Secretary of the University.*

FRANCES CURRIE, *Clerk of the Medical College.*

FACULTY COMMITTEES.

Committee on Admission:

The Dean (Chairman), Dr. E. O. Smith (Secretary of the Faculty), and Dr. Knower.

Committee on Advanced Standing, Promotion, and Student Affairs:

The Dean (Chairman), Dr. F. Forchheimer, and Dr. Oliver.

Committee on Course of Study and Schedule:

Dr. Woolley (Chairman), Dr. Fischer, and the Dean.

Committee on Buildings, Libraries, Laboratories, and Apparatus:

Dr. Thompson (Chairman), Dr. H. Whitacre, and Dr. Reemelin.

Committee on Clinics:

Dr. Freiberg (Chairman), Dr. Sattler, Dr. Griewe, Dr. Rachford, Dr. Bonifield.

HISTORICAL STATEMENT.

THE MEDICAL COLLEGE OF OHIO.

In the month of December, 1818, Dr. Daniel Drake made personal application to the Legislature for the passage of a law authorizing the establishment of a medical college in Cincinnati. The bill establishing the Medical College of Ohio was passed January 19, 1819. In this act Samuel Brown, Coleman Rogers, Elijah Slack, and Daniel Drake were named corporators and invested with the powers of trustees. The same persons were constituted the faculty. Dr. Drake was elected President; Dr. Rogers, Vice-president; Elijah Slack, Register and Treasurer. Dr. Brown declined to accept the positions tendered to him. For this and other causes no session was held in 1819-20.

At a meeting held August 20, 1820, Dr. Drake was elected Professor of Theory and Practice and Diseases of Women and Children; Dr. Slack, Professor of Chemistry; Dr. Bohrer, Professor of Materia Medica and Pharmacy; Dr. Jesse Smith, Professor of Anatomy and Surgery; and Dr. Robert Best, Assistant to the Chair of Chemistry.

On the opening of the session, November 1, 1820, a class of twenty-four students was assembled. In April, 1821, the first commencement was held, and a class of seven was graduated. In October, 1821, the departments of Anatomy and Surgery were separated. Dr. John D. Godman, of Philadelphia, was elected to the Chair of Surgery.

On December 13, 1822, a law was passed by which the government of the college was transferred to a board of trustees consisting of thirteen members.

November 15, 1824, a new faculty was elected, as follows: Dr. Jedediah Cobb, Professor of Institutes and Practice; Elijah Slack, Professor of Chemistry and Pharmacy; Dr. John Moorhead, Professor of Materia Medica and Obstetrics; Dr. Jesse Smith, Professor of Anatomy and Surgery.

In 1825 the college was reorganized and the number of trustees reduced to seven. This order was continued until 1851.

In 1826 the first building for the school was erected on Sixth Street, on the site where the larger building was erected in 1851.

This latter was occupied by the college until 1896, when it became the medical department of the University of Cincinnati and removed to its present location.

In 1831, at the instigation of Dr. Drake, Miami University attempted to establish a medical college in Cincinnati, and a number of brilliant men were secured, as follows: Dr. Drake, Professor of Institutes and Practice; Dr. George McClellan, Professor of Anatomy and Physiology; Dr. John Eberle, Professor of Materia Medica and Botany; Dr. James M. Staughton, Professor of Surgery; Dr. John F. Henry, Professor of Obstetrics and Diseases of Women and Children; Dr. Thomas D. Mitchell, Professor of Chemistry and Pharmacy; Dr. Joseph N. McDowell, Adjunct Professor of Anatomy and Physiology. Before the beginning of the session, however, the Medical College of Ohio was reorganized and nearly all of these men entered the new faculty. Samuel D. Gross, the great surgeon, teacher, and author, began his career as Demonstrator of Anatomy in the Medical College of Ohio, in 1831.

In 1835 Daniel Drake, with others, founded the "Medical Department of the Cincinnati College." On June 27, 1835, the trustees of the Cincinnati College announced the opening of their medical department, with the following faculty: Joseph N. McDowell, Anatomy; S. D. Gross, Pathology, Physiology, and Jurisprudence; Horatio B. Jameson, Surgery; James B. Rogers, Chemistry and Pharmacy; Landon C. Rives, Obstetrics and Diseases of Women and Children; J. P. Harrison, Materia Medica; Daniel Drake, Practice; John L. Riddell, Adjunct in Chemistry and Lecturer on Botany. Dr. Jameson resigned after the first session. His successor was Dr. Willard Parker. A more brilliant array of physicians and teachers has never been gathered together in any school in the West. After a struggle of four years this school closed.

With the collapse of its great rival the Medical College of Ohio took on new life. In 1844-45 it enrolled one hundred and seventy-seven students. In 1852 the new building on Sixth Street, between Vine and Race, was opened. From this time the college was more prosperous. The founding of the Miami Medical College in 1852 drew away a number of the faculty and students. In 1857 the two schools were reunited; in 1865 the Miami Medical College was reestablished.

The college enjoyed uninterrupted prosperity for a period of more than thirty years, during a portion of which time the students numbered between three and four hundred. During the present decade the great increase in the length of the course

and the higher requirements for entrance have reduced the classes considerably.

Among its great teachers in the last half-century have been: Comegys, Graham, Wright, Blackman, Parvin, Gobrecht, Bartholow, Seely, Reamy, Conner, Longworth, Nickles, Mendenhall, Dawson, Whittaker, Kebler, Crane, Phelps.

THE MIAMI MEDICAL COLLEGE.

The first meeting for the organization of the Miami Medical College was held in the office of Dr. John F. White, on July 22, 1852. Jesse P. Judkins, M. D., one of a family noted in the medical history of Cincinnati, was chosen dean of the new school. One of the most widely known members of the first faculty was Reuben D. Mussey, M. D., a surgeon with an international reputation for his zeal in the scientific advancement of his profession and for skill as an operator. The following is a complete list of the members of the faculty and of the subjects taught, as given in the first catalogue of the college: R. D. Mussey, M. D., Professor of Descriptive and Operative Surgery; J. P. Judkins, M. D., Professor of Surgical Anatomy and Surgical Pathology; Charles L. Avery, M. D., Professor of Anatomy; John Davis, M. D., Professor of Anatomy; John F. White, M. D., Professor of Theory and Practice of Medicine; George Mendenhall, M. D., Professor of Obstetrics and Diseases of Women and Children; John A. Murphy, M. D., Professor of Materia Medica, Therapeutics, and Medical Jurisprudence; C. G. Comegys, M. D., Professor of Institutes of Medicine; John Locke, Jr., Professor of Chemistry. A comparison of this list with that of the faculty and course of study of the Miami Medical College in 1908-09 will give an idea of the advanced requirements demanded by a half-century of growth in medical education. There were neither clinicians nor laboratory demonstrators in the old faculty.

Instruction was given in a building at the northwest corner of Fifth Street and Central Avenue. Clinical lectures were given at the Commercial (now Cincinnati) Hospital and at St. John's Hospital. A dispensary was established in the college building, where Professor E. Williams, in 1855, opened the first clinic for diseases of the eye west of New York.

The Ohio and Miami Colleges united in 1857 and continued as one school until 1865. Then the Miami College again became a separate school, with Professors Mendenhall, Judkins, and Murphy of the original faculty among its teachers. In 1866 the building on Twelfth Street was erected, and has ever since been the

home of the college, becoming the property of the University by the terms of the union in 1909.

Of the men who became members of the faculty at the reorganization Professors E. Williams, William H. Mussey, William Clendenin, and William H. Taylor have left a marked inpression on the alumni of the college. Men of the highest type themselves, they always advocated the truest ethics in professional life and the purest morals in private life. As they chose their associates in the succeeding years, these naturally were men of similar kind. The students attracted by such a faculty were for the most part men of like mental and moral characteristics. Today members of the Miami alumni can be found in positions of honor and responsibility wherever modern medicine is practiced.

THE UNION OF THE TWO COLLEGES.

The Medical College of Ohio became the medical department of the University by virtue of a contract between the corporation of that college and the University of Cincinnati, made April 28, 1896. Under this agreement the Medical College of Ohio turned over to the city of Cincinnati for the University its property and good will in trust for the "Medical Department of the University of Cincinnati" (the Medical College of Ohio). The Board of Trustees assigned the building on the McMicken homestead lot to the Medical College for its use, and the Board of Directors of the University at that time constituted the faculty of the Medical College of Ohio the executive faculty of said college. All funds were turned over to the Board of Directors of the University, who thenceforward controlled the finances of the college.

This relation continued until March 2, 1909, when an agreement was made between the University and the Miami Medical College under which this latter college came into the University as an integral college of the institution, and it was united with the medical department of the University (the Medical College of Ohio). This agreement provided that the union of the two colleges should be made after the conclusion of the session of 1908-09, and that a new college should then be established, to be known as "The Ohio-Miami Medical College of the University of Cincinnati," and begin operations with the opening of the session of the University in the fall of 1909. The agreement required that all positions on both faculties be vacated at the close of the session for the purpose of giving the University of Cincinnati an opportunity to organize the faculty of the new college under the by-laws controlling the other colleges and faculties, which by-

laws from this time forward became the by-laws of the new medical college.

These provisions have been carried out during the year 1909-10, and the new college now enters upon its second year of work.

THE NEW COLLEGE.

It is proposed to make this new Medical College a scientific school of modern medicine of the best type. Modern medicine aims to ascertain the truth in nature and to use it in various ways to effect practical ends in the prevention and cure of disease and in the promotion of the physical welfare of mankind. It recognizes no sects and accepts no dogmas or theories not common to all the natural sciences and in accord with logical thinking. All principles and presuppositions must undergo rigorous testing and only things that prove true are accepted and used. To learn the truth of nature and to apply it for the advancement of human welfare, this is the one object of the scientific medical college. To contribute to this science and to train men to observe and to study in this way and thus to qualify themselves to serve their fellows is the one desire of its faculty.

The course of the modern scientific medical college divides itself into two parts, each covered approximately by two years. The first part of the course should be devoted to the study of the natural sciences in their relation to medicine, surgery, and sanitation. The chief sciences to be studied in this relation are chemistry, anatomy, pharmacology, physiology, and bacteriology and its applications in pathology. The first two years should be devoted chiefly to laboratory work and training in these subjects. The second part of the course should be devoted chiefly to learning the applications of these sciences to medicine and surgery and the method of their practice. The student attends clinical lectures and receives careful bedside instruction. Systematic training in physical diagnosis and in the various practical methods of surgery, obstetrics, etc., occupies his time. A course in hospital practice, under competent direction, usually follows the college course before the young man is prepared to undertake independent work. This is provided by interneships in the hospitals of the city and vicinity which are awarded to our students.

The Ohio-Miami Medical College is now well prepared to give thorough courses in both laboratory and clinical instruction. Its laboratories have been newly equipped for anatomy, physiology, bacteriology, and pharmacology. The chemical laboratories of the University have been enlarged for the accommodation of the

medical students, and hereafter all the instruction in general and physiological chemistry will be given there. Full-time professors and assistants have been put in charge of all these departments, with the exception of pharmacology, which is in charge of an experienced teacher. The clinical and pathological laboratories of the City Hospital are also under the direction of our professors and are used for our students.

For the clinical instruction of students, the college has the use of the City Hospital, the Good Samaritan Hospital, and all the other hospitals in Cincinnati, with one exception. With the completion of the new City Hospital, now under way, at a cost of four million dollars, Cincinnati will have as complete an institution of the kind as is to be found anywhere. The contagious diseases division of this hospital will be opened in January. Included in the plan for the new hospital is a large laboratory building for bacteriology, pathology, neurology, etc., and for a museum, all of which will be used by the college. Professors of the college have charge of the entire medical service of these institutions and the clinical instruction of each department in each hospital will be placed under the direction of specialists. The didactic lectures in medicine, surgery, etc., will be given at the college and the clinical lectures at the City and Good Samaritan and other hospitals. The College Dispensary has been reorganized and the equipment improved. The instruction there is given by trained clinical teachers. The foundation has thus been broadly laid for a scientific medical school of the highest type.

EQUIPMENT.

BUILDINGS.

The college is located on the McMicken homestead lot, between McMicken and Clifton avenues, at the head of Elm Street. The lot has a frontage of three hundred feet between these avenues, the college building being nearer Clifton Avenue, and the dispensary building on McMicken Avenue. The college building contains lecture, recitation, and laboratory rooms. It is a four-story structure, of brick and cut stone, with iron stairways and internal finish of substantial character. The dispensary building is a one-story brick structure, 123 by 50 feet, and contains eight small lecture-rooms, each with an adjoining waiting-room for patients, a dispensing drug-room, and a room for the necessary chemical microscopical investigation of cases presenting themselves for treatment. Although in the center of a densely populated district affording a great variety of clinical material, the college building stands upon high ground, commanding a view of a large portion of the city. The laboratories are well lighted and ventilated.

On the basement floor are the laboratories of anatomy, students' sitting-room, and lockers. On the first floor are the Registrar's office, the faculty-room, and museum. The second floor contains the laboratories of bacteriology, of normal and pathological histology, of physiology, and of embryology, all thoroughly equipped with modern apparatus. On the third floor are two large lecture-rooms, furnished with comfortable opera chairs with tablet arms. The fourth floor is occupied by the pharmacological laboratory.

MUSEUM.

The museum of the college contains a large number of anatomical and pathological specimens, as well as models and manikins. The anatomical department is well supplied with carefully injected specimens, both wet and dry.

The pathological department contains a large number of preparations of tumors and the various visceral lesions, and at the same time contains the well-known Mussey osteological collection, consisting of a large number of specimens illustrating the effect of disease and injury to the bones—the gift of Dr. N. P. Dandridge. It also contains a collection of the late Dr. Shotwell.

This is an unusually complete collection, rich in examples of the diseases of the bones, dislocations, and diseases of the joints, embracing at the same time specimens illustrating the processes of repair after fracture.

MEDICAL LIBRARIES.

The Library of the Cincinnati Hospital contains at present about 20,000 volumes, consisting largely of complete files of the leading medical periodicals of the world. It also contains a large number of the most important encyclopaedic works pertaining to the medical sciences. The library is open daily, and its use is free to all physicians, students, and citizens. Books may be removed from the library by members of the Cincinnati Hospital staff only.

The Whittaker Medical Library, bequeathed by the late Professor James T. Whittaker to the Medical College of Ohio, comprises 1,547 volumes and 538 pamphlets.

In addition, the University Library has a large collection of scientific works for medical study.

LABORATORIES.

The Chemical Laboratory and
The Laboratory of Histology and Embryology
are located in the University buildings.

The Pharmacological Laboratory,
The Laboratory of Pathology,
The Bacteriological Laboratory,
The Physiological Laboratory,
The Surgical Laboratory, and
The Laboratory of Practical Anatomy
are located in the Medical College building.

The Laboratory of Electrotherapeutics
is in the Dispensary building.

The Laboratory of Clinical Microscopy
is in the City Hospital.

At the opening of the session of 1910-11 a new laboratory of practical pharmacology will be established. This laboratory will consist of a large work-room fully equipped with chemical desks and all the required apparatus. A lecture-room and store-room for supplies and specimens are adjacent. Students will also have practice in the pharmaceutical room of the College Dispensary.

REQUIREMENTS FOR ADMISSION.

The candidate for admission must (1) obtain the medical student's entrance certificate issued by the examiner for the Ohio State Board.

2. He must present satisfactory evidence of having completed, in addition to the regular high school work, a course of one year each in chemistry, physics, and biology and one year's work in a language (Latin, Greek, or modern language); or he will be required to take an examination in each of these subjects. (For a schedule of these examinations see page 23; for the one-year preparatory course in these subjects see page 30.)

3. The candidate must present a certificate of moral character, signed by two physicians of good standing in the state in which he last resided.

The following information has been furnished by the Ohio State Board.

Sec. I. Authority.

"The minimum educational requirements for matriculation in the medical colleges of Ohio have been established by law.

"The State Medical Board, in conformity with this law, has appointed an examiner, and has authorized him to issue certificates to prospective matriculants.

Sec. II. Certificates.

"The certificate issued by the examiner has two uses:

"(1) It certifies that the holder has satisfied the minimum educational requirements, as fixed by law, for admission to medical colleges. It is therefore a prerequisite for matriculation in any medical college of the state. An applicant for admission to a medical college having entrance requirements that are higher than the requirements for this certificate must: (a) secure this certificate, and (b) satisfy the registrar of that college with reference to all additional requirements.

"(2) It, together with the medical diploma, must be submitted to the secretary of the State Medical Board by an applicant for admission to the examinations required of all who wish to practice medicine in the State of Ohio. It is also required of practioners of other states who wish to take advantage of a reciprocity agreement.

"These certificates are issued to any applicant

"(1) Presenting acceptable credentials, or

"(2) Passing the entrance examinations.

FIRST—UPON CREDENTIALS.

SEC. III. THE BASIS UPON WHICH CERTIFICATES ARE ISSUED.

"The credentials which may be accepted are as follows:

"(a) A diploma from an approved college granting the degree of A. B., B. S., or an equivalent.

"(b) A certificate showing graduation from a high school of the first grade, normal school or seminary, legally constituted, issued after four years of study.

"(c) A teacher's permanent or life high school certificate.

"(d) A certificate of admission by examination to the freshman class of an approved literary or scientific college.

"An official certificate showing graduation and describing the credits is preferred to a diploma.

"Normal schools and seminaries are classed as secondary schools.

"A certificate of admission to the freshman class of an approved literary or scientific college means a certificate to such class free from conditions. To be acceptable such a certificate must show that the admission was by examination or that at least one term of work has been done in residence. To be approved a college must maintain entrance requirements and standing equal to those of the College of Arts, Philosophy, and Science of the Ohio State University. The Ohio colleges considered as of this grade are Adelbert, Antioch, Buchtel, Case, Cincinnati, Denison, Heidelberg, Hiram, Kenyon, Lake Erie, Marietta, Miami, Mount Union, Oberlin, Ohio, Ohio State, Ohio Wesleyan, Otterbein, St. John's (Toledo), Western (Oxford), Wittenberg, Woman's College (Cleveland), and Wooster.

"Other colleges may be added to this list upon the recommendation of the Entrance Examiner and the approval of the State Medical Board.

SEC. IV. DISALLOWED CREDENTIALS.

"The following credentials can not be accepted as satisfying the requirements:

"County, city, or village certificates to teach school. A teacher's permanent or life common school certificate except for such units of high school work as it may represent.

"Diplomas or certificates from high schools of less than the first grade.

"Diplomas or degrees from normal schools or seminaries in which less than four years of work has been completed.

"Certificates from schools or individuals certifying that certain work has been done, when such work has not led to the completion of a course or to the conferring of a diploma or degree.

"Certificates from the examining boards of other states.

SEC. V. DATA REQUIRED FOR CERTIFICATE.

"The entrance examiner is authorized to issue a certificate covering the minimum requirements for admission to medical colleges upon the presentation of the following credentials:

"(1) Acceptable official certificates covering the preliminary educational requirements. A blank certificate will be furnished

for this purpose if desired. All certificates must remain on file in the office of the Board.

"(2) A census blank properly filled out. This blank will be supplied by the examiner.

"(3) A postoffice or express money order or a certified check for the required fee of two dollars, made payable to the Treasurer of the State Medical Board.

SECOND—UPON EXAMINATION.

Sec. VI. Time and Place for Holding Examinations.

"An applicant for a certificate by examination may present himself to the state entrance examiner on the first Thursday, Friday and Saturday of September, in Cincinnati, Columbus, Cleveland or Toledo. Only one examination in each year is authorized. The place of holding the examinations and other information will be supplied upon request.

Sec. VII. Subjects Required for Examination.

"By resolution of the State Medical Board the following is the minimum standard for examination for entrance to medical colleges:

"*Foreign Language*—Latin. Two units.

"*English*—Composition, Rhetoric, and English Literature and Classics. Three units.

"*History*—American History or American History and Civil Government. One unit.

"*Mathematics*—Algebra through quadratic equations, and Plane Geometry. Two units.

"*Science*—Physics, and either Botany or Zoology, and either Chemistry or Physical Geography. Three units.

"*Extra*—Additional subjects selected from the following list: Botany, Zoology, Physiology, Chemistry, Physical Geography, Civil Government, Ancient History, Medieval and Modern History, English History, Advanced Algebra, Solid Geometry, German, French, Latin. Four units.

NOTES AND COMMENTS.

"The following text-books will indicate the general character and scope of the examinations. Others covering similar ground will be equally acceptable.

"The preparation for the examination in Latin should cover the work usually presented in first year Latin books, such as Coy, Collar and Daniel, Tuell and Fowler, or an equivalent, and the first four books of Caesar. For Caesar any text is acceptable.

"In English, the purpose is to discover the applicant's ability to use the English language, his knowledge of its forms and principles, his proficiency in spelling, punctuation, and capitalization, and his general acquaintance with its literature. He will be asked to write a theme on some assigned subject to demonstrate his ability in written composition.

"Any of the common texts in Rhetoric, such as Genung, Hart, Lockwood and Emerson, or Gardiner, Kittredge, and Arnold will suffice. For English literature Halleck, Pancoast, or Moody and Lovett will be acceptable.

"In History read any of the better school histories, as Johnson, McLaughlin, Montgomery, Channing, Adams and Trent; and in Civics study Fiske, Clark, Andrews, Flickinger, or Hinsdale.

"In Mathematics any standard algebra or geometry will be accepted. The examination in algebra will include quadratic equations.

"In Botany such texts as Bailey, Leavitt, or Bergen are recommended. A herbarium is not required.

"In Zoology study Jordan, Kellogg, and Heath's *Animals*, Dodge's *General Zoology*, or Kellogg's *Elementary Zoology*.

"In Physiography (physical geography)) use any standard text, as Davis, Tarr, Redway, Gilbert and Brigham, Cornell, Appleton, or Dryer.

"In Chemistry use McPherson and Henderson, Remsen (Briefer course), Williams, or Hessler-Smith as a text and McPherson and Henderson as a laboratory manual.

"In Physics study Mann and Twiss, Carhart and Chute, Hoadley, Gage's Elements, or Wentworth and Hill.

Sec. VIII. Grades Required.

"Applicants must obtain a general average of 75 per cent, with no grade below 60 per cent.

"Those falling below 60 per cent in but two branches may be conditioned in such branches.

"A notification of the result of the examination will be sent to each applicant.

Sec. IX. Schedule of Examinations.

Thursday, September 1, 1910:

8:30 a. m. Literature and Classics, 1½ hours.
9:30 a. m. Rhetoric, 1 hour.
10:30 a. m. Composition, 1 hour.
Recess—11:30 a. m. to 1:00 p. m.
1:00 p. m. Physics, 1½ hours.
2:30 p. m. Botany, 1 hour.
3:30 p. m. Chemistry, 1½ hours.

Friday, September 2, 1910:

8:00 a. m. Algebra, 1½ hours.
9:30 a. m. Geometry, 1½ hours.
11:00 a. m. American History and Civil Government, 1 hour.
Recess—12:00 m. to 1:00 p. m.
1:00 p. m. Physiography, 1 hour.
2:00 p, m. Latin Grammar and Caesar, 2 hours.
4:00 p. m. Zoology, 1 hour.

Saturday, September 3, 1910:

8:00 a. m. History, Physiology, Civil Government, 2, 3 or 4 hours.

Sec. X. Conditions.

"Conditions should be removed at the next regular examination. A condition can not be made up in a subject already carried in Medical College as a requirement for a degree. A certificate will not be issued until all conditions have been removed.

Sec. XI. Fee.

"A fee of two dollars is required from each applicant. No additional fee is charged for the removal of a condition or the issuing of a certificate.

"All requests for information should be addressed to the State Medical Board, Columbus, Ohio, K. D. Swartzel, Examiner."

SCHEDULE OF EXAMINATIONS IN THE PREMEDICAL SCIENCES AND LANGUAGE.

(See paragraph 2 under "Requirements for Admission," page 20; also Premedical Course on page 30.)

Monday, September 5 (reexamination, Friday, September 23), 1910:

10:00 a. m. Chemistry, 2 hours.
2:00 p. m. Physics, 2 hours.

Tuesday, September 6 (reexamination, Saturday, Sept. 24), 1910:

10:00 a. m. Biology, 2 hours.
2:00 p. m. Language (Latin, Greek or modern), 2 hours.

Those who fail to pass the examination in any of the above subjects the first time will be permitted to take a subsequent examination in that subject on September 23d and 24th, according to the schedule above.

ADVANCED STANDING, GRADUATION,

AND OTHER INFORMATION.

CREDIT FOR COURSES IN COLLEGES OF LIBERAL ARTS.

The Ohio State Medical Board has ruled that advanced time credit to liberal arts college graduates can only be recognized when the candidate has done, during his academic course, the science work comprised in the first year of the medical course. This ruling prevents the giving of advanced standing, except to graduates of colleges maintaining a definitely organized premedical course, including human anatomy.

The Federation of Examining and Reciprocating Boards has also ruled that it will not recognize advanced time standing given for work in colleges of liberal arts unless the college gives one or more years of the regular medical course and holds itself open to inspection by medical boards. No advanced standing can thus be allowed on account of any ordinary literary or scientific degree whatever.

Students who have taken, in colleges of liberal arts recognized by this University, courses the full equivalent of similar courses offered in this medical college, and produce certificates of this fact, need not repeat these courses here. Such credits do not entitle the student to advanced time standing; for, according to the rulings above cited, such subject credits for work not taken at a medical college can not shorten the required residence to less than four years.

CREDIT FOR WORK IN MEDICAL COLLEGES.

Students from accredited medical colleges may be admitted to advanced standing under the following rules:

1. They must present satisfactory evidence that they have met our requirements for admission to a medical college. They must present evidence that they have satisfactorily completed courses of the same scope and extent as the courses for which they seek credit.

2. They must present credentials from the registrar or corresponding officer of the medical college attended, showing that they have been registered medical students in residence for the time for which credit is sought.

3. In order to obtain credit for a whole or any part of a course, the student must file with the Registrar, before the second week in October, a credit application blank, in duplicate, showing where the work was done, the names of the professors, dates of the beginning and the end of the course, the number of hours per week and weeks in the course, the total number of lectures or quizzes of laboratory or clinical work, and the grades received in it. This application should be accompanied by certificates, supporting the above facts, from the registrar of the college or the professor under whom the work was done, by the catalogue or schedule of the institution, and by notebooks of the student in laboratory courses. In the absence of satisfactory certificates, an informal examination may be required on the whole or a part of the subject. This application, with the supporting evidence, will be submitted to the professors in charge, who will decide what credits are recommended. This recommendation must then be approved by the Committee on Advanced Standing, and returned to the Registrar, in duplicate. One copy will be filed and one returned to the student.

4. Any course or part of a course required by this college which has not been sufficiently covered by the previous work of the students must be taken in a manner satisfactory to the professor in charge of the department.

GRADUATES IN MEDICINE.

A graduate from another medical college may obtain a diploma from this college only under the following conditions:

1. He must comply with the conditions for admission to this college, submit the required time and subject credits from the college from which he graduated, as required above, together with his diploma (graduates previous to 1900 excepted).

2. He must be in residence at this college one full college year, and take all the courses not covered by his subject credits, repeating such courses of the fourth year as the faculty may require. When this has been done he may elect such additional courses as he may choose.

3. The total of all courses taken in this college must not be less than required of the fourth-year class.

4. He must pass examinations in all the courses in which he has been found deficient and all the regular examinations of the fourth year, and conform to all other requirements for graduation applying to the students of this college.

SPECIAL STUDENTS.

Graduates of medicine or others desiring to take courses not leading to graduation may be registered as special students and be admitted to such courses as they are fitted to undertake without preliminary examinations, but only by permission of the professor in charge of the course and upon payment of the fees required. The work so done may be accepted for credit later, under the rules of "Credit for Work in Medical Colleges," above stated.

REQUIREMENTS FOR COMPLETION OF A COURSE.

The satisfactory completion of a course shall be determined by the professor in charge, through examinations, records of attendance, and the work of the student. To pass in a course the student must comply with the following:

1. He must have attended 80 per cent of the scheduled lectures, recitations, quizzes, laboratory periods, and clinical or other appointments in the course.
2. He must have received a grade of 75 per cent.

A student who has failed in a course may be required, at the discretion of his professor, to repeat his attendance upon a part or the whole of the course, or he may only be reexamined after a suitable period of study. If he has failed in the subjects covering 300 hours of scheduled time, reattendance upon at least one-half of the work in which he has failed will be required, or reexamination. Attendance on vacation courses or private instruction will only be accepted by the faculty on recommendation of the professor in charge.

PROMOTIONS.

Promotions from one class to another will be made by the Committee on Advanced Standing and Promotion after the last examination of the session, and the student will be advised of his standing within thirty days. Students will not be permitted to enter a higher class until they have shown their fitness to carry on the work of the lower class.

The following rules will govern the admission of students found partially deficient in the previous year to the higher class:

1. By the third week in October the student must have passed in every subject of the class two years below that which he seeks to enter.

2. He will not be permitted to enter a class if he is 150 hours behind in the work of the preceding year, or if he is deficient in subjects amounting to 300 schedule hours in all. Promotions from one class to another will, as a rule, be made, only at the end and beginning of the college year.

3. Students not promoted will be permitted to take any courses in the next higher class for which they are prepared, and which do not interfere with the work in which they are conditioned. The total number of courses taken (new and repeated) must not amount to more than 4,500 schedule hours.

4. Candidates for graduation failing in any subjects may be required to repeat their attendance in such courses as the faculty directs. Those who have failed in three courses or more must repeat their attendance on all the courses in which they have failed and such others as the faculty may direct. When these conditions of attendance have been satisfied, reexamination will be granted in one subject in September or October; in two subjects in January. If the student has failed in three subjects or more, he must take the regular examinations in these subjects with his senior class.

REQUIREMENTS FOR GRADUATION.

To receive a diploma from this college the student must comply with the following conditions:

1. The regulations of the Ohio State Medical Board in regard to registration as a medical student and admission to this college (as above explained).

2. He must have been in residence in a medical college recognized by this University for at least four years, and his last year of residence must have been in this college.

3. He must have attended at least 80 per cent of all the scheduled appointments of the courses, and have attained to a satisfactory standing in all the required courses.

4. He must have passed all courses of the first three years before beginning his senior year.

5. He must have discharged all his financial obligations.

6. Diplomas will only be granted at the regular examinations of this college, when they will be conferred upon the candidates in person by the President of the University.

OHIO STATE MEDICAL BOARD EXAMINATIONS.

Examinations for license to practice medicine and surgery in the State of Ohio are given twice in each year by the State Medical Board. The dates are usually announced six months in ad-

vance. They usually occur in June and December, about the 10th of the month. Conditions for entrance to these examinations may be summed up as follows:

1. The candidate must have had a preliminary training equivalent to graduation from a first-class high school having a four-year course.

2. He must have registered with the Board of Ohio or some other state for at least three years previous to the time of examination.

3. Except in cases of men with the Bachelor's degree who have completed in an undergraduate liberal arts college all the scientific work of the first medical year, the period of residence in medical colleges must have been four years.

4. He must present a diploma of a medical college recognized by the Ohio Board.

5. He must pay an examination fee of twenty-five dollars to the Board, which will be returned to him in case he is not admitted to examination, but is not returned if he is admitted or fails.

Licensure by the Ohio State Board carries with it the privilege of registering for practice in certain other states, including New York, Maryland, Maine, New Jersey, Illinois, Indiana, Colorado, Nebraska, Michigan, Minnesota, Wisconsin, Iowa, Texas, Wyoming, West Virginia, Vermont, and the District of Columbia. Other states are expected to be added to this list from time to time. As the regulations governing medical education and licensure to practice in Ohio are high, the permission to practice is likely to be effected in all the states in which the laws permit reciprocity in these matters. Details in regard to the conditions in any particular state may be learned by addressing the Secretary of the Ohio State Medical Board, at the State House, Columbus, Ohio.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF ENGLAND.

The Ohio-Miami Medical College has been officially notified by the Conjoint Examining Boards of the Royal Colleges of Physicians and Surgeons of England that "it has been added to the list of schools recognized by this Board, whose graduates may be admitted to the final examination, on producing the required certificates of professional and of having passed a recognized preliminary examination in general education."

There are but few colleges in the United States having the recognition of the Examining Boards of the Royal Colleges of Physicians and Surgeons of England.

PREMEDICAL COURSES.

As previously announced, this College, from and after the fall of 1910, will demand in addition to the high school preparation required by the State Medical Board, a year each of physics, chemistry, biology, and of additional language study. Inquiries from high school graduates desiring to get this additional preparation in a single year have led the University to formulate a course for this purpose. This course can be taken in two semesters, beginning in September and ending in June.

In addition to the work in chemistry, biology, and physics, the student is advised to take a course in German, French or Latin, selecting preferably the language he has studied in high school.

Chemistry	Lectures	.....	3 hours per week.
Biology	"	.....	3 " " "
Physics	"	.....	3 " " "
Language	"	.....	3 " " "
Chemistry	Laboratory	.....	2 periods per week.
Biology	"	.....	2 " " "
Physics	"	.....	2 " " "
			18

COMBINED COLLEGIATE AND MEDICAL COURSE.

The fact that a liberal education is necessary to the successful study and practice of medicine is being recognized more and more by leading authorities in the profession. To enable students, therefore, to obtain both the degrees of Bachelor of Arts and Doctor of Medicine in seven instead of eight years, a combined collegiate and medical course has been outlined by a joint committee of the two colleges of the University concerned.

Under this arrangement, a student on first being admitted to the College of Liberal Arts must obtain permission from the dean of that college to elect the premedical course, which is as follows:

FIRST YEAR.	Hours per week I. Sem.	II. Sem.
Gen. Inorganic Chemistry (1, 3)	3	3
" " Lab. (2, 4)	2	2
Gen. Physics (1, 21)	3	3
" Lab. (2, 22)	2	2
English Composition (1)	3	3
*German or French	3	3
Elective	2	2
	18	18
SECOND YEAR.		
Qualitative Analysis (Chem. 5)	3	..
" " Lab. (Chem. 6)	2	..
Animal Biology and Gen. Zoology (1, 3)	3	3
" " " Lab. (2, 4)	2	2
*German or French	3	3
Elective	5	10
	18	18
THIRD YEAR.		
Organic Chemistry (8)	3	..
Physiological Chemistry	..	3
Organic Chemistry Lab. (9)	2	..
Physiological Chemistry Lab	..	2
Zoology (15)	1	..
Comparative Anatomy of Vertebrates (17)	..	2
Zoology and Comparative Anatomy Lab	2	2
Psychology or Logic	3	3
Theory of Scientific Method (1, 8)	..	..
Elective	7	6
	18	18
FOURTH YEAR (First Year Medical).		
Embryology and Histology (Biol. 19)	2	2
" " Lab. (20)	2	2
Human Anatomy	Regular work at the Medical College.	
Physiology Lectures		
" Lab		
Elective in the University if desired.		
Physical Chemistry, Adv. Organic Chemistry, Anatomy and Physiology of Cell, Cytology (lab.), etc.		

FIFTH, SIXTH, AND SEVENTH YEARS.

See Second, third, and fourth years of the regular Medical College schedule.

Physical Education is required of all students in the first and second years.

*In case four units in this language are offered for admission to the University the requirements in it shall be regarded as fulfilled; in case two units in this language are offered the student is required to take an additional three-hour course in it during the first year. Hours vacated in this way shall be regarded as elective.

FEES.

All fees must be paid in advance to the Clerk of the Board of Directors, who will be at the Medical College Building on registration days to receive the same. *No fees will be refunded.*

Matriculation Fee.—All students must pay a matriculation fee of five dollars, collectible but once, at the time of entrance to the College.

Tuition.—All regular students in the Medical College are charged a tuition fee of $125.00 per year, payable in installments of $62.50 per semester, in advance, during registration days. This fee entitles these students to all didactic and clinical lectures and recitations, except the clinics of the City Hospital, which the members of the advanced classes are required to attend, and for which they pay an additional fee of five dollars to the hospital. If the above tuition is paid within two weeks succeeding the last registration day, the fee is seventy dollars per semester; if paid within the next following two weeks, the fee is seventy-five dollars per semester; and if not paid within four weeks after the last registration day, attendance upon classes will not be allowed.

Special students are charged a proportionate part of the tuition fee, depending upon the amount of work taken and the date of payment.

Breakage Deposit.—A deposit fee of ten dollars will be required of each student at the opening of each session as a guarantee against breakage of apparatus, instruments, furniture, etc., to be renewed by each student whenever the breakage or damage amounts to ten dollars. This deposit will be returned at the end of the year after deductions for such damage have been made.

Microscope Fee.—Each student must own a microscope approved by the professor of the department, or rent one from the college, at a cost of $2.50 per session.

Diploma or Graduation Fee.—Students who receive the degree of Doctor of Medicine are charged a diploma fee of twenty-five dollars, which must be paid at least two weeks before the day appointed for conferring the degree.

Laboratory Fee.—A laboratory fee of five dollars will be collected at the beginning of each semester of all students entering in September, 1910, and thereafter taking work in any of the laboratories.

ATHLETICS.

Athletics are so controlled in the University that they play an important part in the college life of the student without seriously conflicting with the interest in class-room work.

A large part of the work is done out of doors during good weather, and such games as football, baseball, basketball, tennis, and track athletics are a part of the students' training. Lessons in boxing and fencing are also given to students interested in this form of exercise.

A large new gymnasium is being erected. It will be ready by the fall of 1911, and will be open to students of all the colleges.

An athletic field has recently been provided, and its equipment is now complete. One end has a baseball diamond, the other a football gridiron. The track is one-fourth mile, built of cinder, with deep foundation. A straightaway one hundred and twenty yards, sixteen feet wide, extends in front of the grand-stand. The proximity of this field to the gymnasium makes it a particularly valuable addition to the athletic equipment of the University.

All athletics and gymnastics are in charge of the Director of Physical Education and his assistants.

HOW TO REACH THE COLLEGE.

The buildings are most conveniently reached by the College Hill-Main street car line.

GENERAL PLAN OF INSTRUCTION.

In the four sessions, which constitute a course, nearly forty-three hundred hours of work are filled; a large proportion of these are devoted to laboratory and clinical study, as indicated below.

The work of the freshman and sophomore years is concerned entirely with the so-called theoretical branches. That of the junior and senior years, on the other hand, is largely practical. It is aimed to reserve the study of the special branches of medicine and surgery for the senior year as far as possible.

SUMMARY OF HOURS OF WORK.

(*Based on thirty weeks to the session.)

†DEPARTMENT OF	Didactic	Laboratory	Clinical	Total
First Year				
Anatomy	90	330	....	420
Physiology	120	120	....	240
Chemistry	75	180	....	255
Total	285	630	....	915
Second Year				
Anatomy	30	120	....	150
Physiology	90	30	....	120
Pathology and Bacteriology	60	320	....	380
Materia Medica	90	....	24	114
Chemistry	75	180	....	255
Hygiene	30	....	....	30
Total	375	650	24	1049
Third Year				
Pathology	....	30	....	30
Surgical Anatomy	60	....	....	60
Physical Diagnosis	10	....	20	30
Medicine	75	60	180	315
Therapeutics	120	40	24	184
Surgery	30	30	200	260
Obstetrics	60	....	30	90
Gynecology	....	....	45	45
Pediatrics	....	....	50	50
Dermatology	....	....	20	20
Ophthalmology	....	....	15	15
Laryngology	....	....	15	15
Total	355	160	599	1114

*As a matter of fact, in the session of 1910-11 a course designated as covering thirty hours will extend over thirty-two weeks.

†On pages 36-44 will be found the courses in detail embraced under the departmental heads.

†DEPARTMENT OF	Didactic	Laboratory	Clinical	Total
Fourth Year				
Pathology	....	30	....	30
Medicine	75	....	200	275
Pediatrics	30	....	50	80
Neurology	30	....	30	60
Psychiatry	30	....	30	60
Dermatology	30	....	20	50
Surgery	90	....	210	300
Orthopedics	30	....	30	60
Obstetrics	40	....	30	70
Gynecology	30	....	60	90
Ophthalmology	30	....	15	45
Otology, Rhinology, Laryngology	30	....	15	45
Medical Jurisprudence	30	....	....	30
Total	475	30	690	1195
Total for the Course				
Anatomy	120	450	....	570
Physiology	210	150	....	360
Chemistry	150	360	....	510
Materia Medica, Pharmacology, Therapeutics	210	40	48	298
Pathology	60	380	....	440
Medicine	160	60	400	620
Pediatrics	30	....	100	130
Psychiatry and Neurology	60	....	60	120
Dermatology and Syphilology	30	....	40	70
Surgery (including Genito-Urinary);	180	30	410	620
Orthopedic Surgery	30	....	30	60
Obstetrics	100	....	60	160
Gynecology	30	....	105	135
Ophthalmology	30	....	30	60
Otology, Rhinology, Laryngology	30	....	30	60
Hygiene	30	....	....	30
Medical Jurisprudence and Economics	30	....	....	30
Total	1490	1470	1313	4273

COURSES OF INSTRUCTION.

LECTURE AND LABORARATORY COURSES IN DETAIL.

ANATOMY.

Professor Knower; Assistant Professor Malone; Dr. Wieman; Mr. Peaslee.

Anatomy is studied in its three main aspects:

Embryology, Histology or Microscopic Anatomy, and Gross Human Anatomy.

1. **Embryology.**—An elementary course of lectures and laboratory work, acquainting the student with the essentials of the history of the germ cells, their development, germ layers, embryo formation, and the origin and early stages of the organs.
Dr. Wieman and Mr. Peaslee.

2. **Histology.**—An extended course in the microscopic anatomy of the body. The minute structure of tissues and organs is studied by approved methods, and the best technical procedures of making microscopical preparation are taught. The material is chiefly human. Lectures and laboratory work.
Dr. Wieman and Mr. Peaslee.

The above courses consume two hundred and seventy hours.

3. **Gross Anatomy.**—Practical study of the human body in the dissecting room, accompanied by lectures, beginning in the freshman year.

In the sophomore year the above is continued and the dissection of the body completed. In this year there is a short course giving the essentials of the structure of the brain and cord.
Professor Knower and Assistant Professor Malone.

The required work in Gross Anatomy covers at least three hundred hours.

4. **Surgical Anatomy.**—In the junior year lectures are given in Surgical Anatomy, as per page 42, by a member of the surgical staff.

5. **Neurological Anatomy.**—A special course in the anatomy of the central nervous system (Human brain and cord) is planned for a few physicians who have had the necessary preliminary training. Professor Knower.

Those interested in this or other post-graduate work in anatomy are requested to apply to the Professor of Anatomy.

PHYSIOLOGY.

Professor Fischer, Dr. ————.

For the coming academic year only such courses in physiology will be given under the direction of this department as are required for graduation in medicine, and such as are necessary to meet the desires of advanced or special students and practitioners of medicine. The courses for medical students will be given in the Ohio-Miami Medical College Building; those for special students in the buildings of the University in Burnet Woods. Courses in physiology for general science students are offered by the department of biology; courses in physiological chemistry for general science and medical students, by the department of chemistry.

Freshman Year.

1. **Medical Physiology.**—The general physiology of the cell; the physiology of the blood and the circulation; the physiology of respiration; the physiology of muscle and nerve. A lecture and conference course. *First semester*, sixty hours.
Professor Fischer and Dr. ————.

2. **Medical Physiology.**—The physiology of alimentation; the physiology of absorption and secretion; the physiology of animal heat. A lecture and conference course. *Second semester*, sixty hours. Professor Fischer and Dr. ————.

3. **Medical Physiology.**—A laboratory course designed to illustrate the classical experiments upon which our present knowledge of the subject rests. The work is arranged to parallel, as nearly as possible, the didactic work of courses 1 and 2. *First and second semesters*, sixty hours each.
Professor Fischer and Dr. ————.

Sophomore Year.

4. **Medical Physiology.**—The physiology of metabolism; the physiology of the ductless glands; the physiology of the spinal cord. A lecture and conference course. *First semester*, forty-five hours.
Professor Fischer and Dr. ————.

5. **Medical Physiology.**—The physiology of the brain and the special senses. A lecture and conference course. *Second semester*, forty-five hours. Professor Fischer and Dr. ————.

6. **Medical Physiology.**—A laboratory course in the physiology of the central nervous system and the special senses. This course parallels course 5. *Second semester*, thirty hours.
Drs. ———— and ————.

Research.

7. **Research.**—Open to any qualified person after consultation with the head of the department.

CHEMISTRY.

Professor Jones; Associate Professor Fry; Assistant Professor Reemelin; and Instructor Upson.

During the year 1910-11 the courses in chemistry will be given at the University. The courses announced below will be taken by sophomores and by freshmen.

Students who have received full credit for general inorganic chemistry and for organic chemistry may elect work at the University in analytical chemistry (courses 5a, 6, 7) or in physical chemistry (courses 12 and 13). These courses are entirely optional, but students who can arrange to take them are strongly urged to do so.

For premedical courses in general inorganic chemistry see the University announcement (courses 1a, 2a, 3b, 4b).

8a. Elementary Organic Chemistry.—The course comprises quizzes and lectures which are experimental to a certain extent, and deals with the chief classes of organic compounds of both the aliphatic and aromatic series. *First semester*, thirty hours. To be accompanied by laboratory course 9a. Professor Jones.

9a. Organic Reactions and Preparations.—A course of laboratory practice arranged to accompany the lectures of course 8a. A number of simple organic substances will be made with the view to furnishing, by the fewest illustrations possible, the largest variety of typical reactions and manipulations. *First semester*, ninety hours.
Professor Jones and Assistant Professor Reemelin.

22b. Physiological Chemistry.—Among other subjects the course will take up for discussion the nature of carbohydrates, fats, and proteid substances; the facts and theories relating to the processes of digestion and metabolism; the chemical composition of the body tissues, secretions, and excretions, including the methods employed in their analysis. *Second semester*, forty-five hours.
Assistant Professor Reemelin and Instructor Upson.

23b. Physiological Chemistry Laboratory.—Laboratory exercises arranged to accompany the lectures, and to acquaint the student with the distinctive reactions of carbohydrates, fats and proteid substances. The student will be expected to learn the application of these tests to the qualitative detection of, and the quantitative estimation of, these substances in body tissues, secretions, and excretions. Digestion, the analysis of gastric and fecal matter and of urine will be considered from the chemical point of view. *Second semester*, ninety hours.
Assistant Professor Reemelin and Instructor Upson.

PATHOLOGY AND BACTERIOLOGY.

Professor Woolley; Assistant Professor Wherry; Dr. Goosmann.

Sophomore Year.

1. **Infection and Immunity.**—Lectures on infection and immunity, together with recitations covering the ground gone over by the students in their laboratory work, and the special text-book assignments. The course must be taken in conjunction with course 2. *First semester*, twenty-five hours. Assistant Professor Wherry.

Course 1 is open only to those students who have qualified in inorganic and organic chemistry, biology, and histology.

2. **Bacteriology.**—The course is designed to give the student a general survey of the subject. In the laboratory the student prepares his own culture media, thus gaining an intimate acquaintance with the principles of sterilization. Representative types of the non-pathogenic and the important pathogenic organisms are studied. Pathologic material from the City Hospital gives the student a first-hand acquaintance with many of the organisms which are pathogenic for man, and with the methods of isolating and identifying them. Some of the more pathogenic protozoa are demonstrated. *First semester*, one hundred and forty hours.

Assistant Professor Wherry.

3. **General Pathology.**—Lectures in general pathology, with especial reference to inflammation, progressive and regressive cellular changes, tumors, and the causes of disease, and recitations covering the ground gone over in the lectures and laboratory work. *Second semester*, thirty-five hours. Professor Woolley.

Course 3 must be taken in conjunction with course 4 and must be preceded by courses 1 and 2.

4. **General and Special Pathology.**—The basis of the work is a laboratory course in which microscopic work is combined with a study of fresh gross and museum specimens. Sections of diseased tissues are stained and mounted by the student, who records a description of each and makes drawings of them. All of the tissues of the body are studied in this way, and the various lesions are discussed from cellular, organic, and systemic standpoints. *Second semester*, one hundred and eighty hours.

Professor Woolley and Dr. Goosmann.

Junior and Senior Years.

5. **Special Topics.**—During the junior and senior years a series of lectures and demonstrations is given to groups of students in the laboratories of the City Hospital. These lectures are illustrated by specimens from the museum and by fresh gross material. Thirty hours. Professor Woolley and Assistants.

Course 5 is not offered in 1910-11.

6. **Post-Mortem Demonstration.**—The course consists of the demonstration of fresh gross material and of material preserved on ice. Autopsies are witnessed by the student, who is required to assist in making them and to take notes and record them in protocols. Thirty hours. Professor Woolley and Assistants.

PREMEDICAL COURSES.

As previously announced, this College, from and after the fall of 1910, will demand in addition to the high school preparation required by the State Medical Board, a year each of physics, chemistry, biology, and of additional language study. Inquiries from high school graduates desiring to get this additional preparation in a single year have led the University to formulate a course for this purpose. This course can be taken in two semesters, beginning in September and ending in June.

In addition to the work in chemistry, biology, and physics, the student is advised to take a course in German, French or Latin, selecting preferably the language he has studied in high school.

Chemistry	Lectures	.....	3 hours per week.
Biology	"	.....	3 " " "
Physics	"	.....	3 " " "
Language	"	.....	3 " " "
Chemistry	Laboratory	.....	2 periods per week.
Biology	"	.....	2 " " "
Physics	"	.....	2 " " "
			18

COMBINED COLLEGIATE AND MEDICAL COURSE.

The fact that a liberal education is necessary to the successful study and practice of medicine is being recognized more and more by leading authorities in the profession. To enable students, therefore, to obtain both the degrees of Bachelor of Arts and Doctor of Medicine in seven instead of eight years, a combined collegiate and medical course has been outlined by a joint committee of the two colleges of the University concerned.

Under this arrangement, a student on first being admitted to the College of Liberal Arts must obtain permission from the dean of that college to elect the premedical course, which is as follows:

FIRST YEAR.	Hours per week I. Sem.	II. Sem.
Gen. Inorganic Chemistry (1, 3)	3	3
" " Lab. (2, 4)	2	2
Gen. Physics (1, 21)	3	3
" Lab. (2, 22)	2	2
English Composition (1)	3	3
*German or French	3	3
Elective	2	2
	18	18
SECOND YEAR.		
Qualitative Analysis (Chem. 5)	3	..
" " Lab. (Chem. 6)	2	..
Animal Biology and Gen. Zoology (1, 3)	3	3
" " " Lab. (2, 4)	2	2
*German or French	3	3
Elective	5	10
	18	18
THIRD YEAR.		
Organic Chemistry (8)	3	..
Physiological Chemistry	..	3
Organic Chemistry Lab. (9)	2	..
Physiological Chemistry Lab	..	2
Zoology (15)	1	..
Comparative Anatomy of Vertebrates (17)	..	2
Zoology and Comparative Anatomy Lab	2	2
Psychology or Logic	3	3
Theory of Scientific Method (1, 8)	..	..
Elective	7	6
	18	18
FOURTH YEAR (First Year Medical).		
Embryology and Histology (Biol. 19)	2	2
" " Lab. (20)	2	2
Human Anatomy	Regular work at the Medical College.	
Physiology Lectures		
" Lab		
Elective in the University if desired.		
Physical Chemistry, Adv. Organic Chemistry, Anatomy and Physiology of Cell, Cytology (lab.), etc.		

FIFTH, SIXTH, AND SEVENTH YEARS.

See Second, third, and fourth years of the regular Medical College schedule.

Physical Education is required of all students in the first and second years.

*In case four units in this language are offered for admission to the University the requirements in it shall be regarded as fulfilled; in case two units in this language are offered the student is required to take an additional three-hour course in it during the first year. Hours vacated in this way shall be regarded as elective.

DERMATOLOGY AND SYPHILOLOGY.

Professor Heidingsfeld.

SENIOR YEAR.

1. Lectures on the hyperemias, inflammations, hypertrophies, atrophies, new growths, tuberculosis, and parasitic diseases of the skin; syphilis, diseases of the nails, hair, hair follicles, sweat and sebaceous glands. The work will be supplemented with demonstrations from several hundred colored lantern slides. Thirty hours.

SURGERY.

Professor Ransohoff; Professor Oliver; Associate Professors Caldwell and Whitacre; Adjunct Professors Kramer and Smith.

JUNIOR YEAR.

1. **Surgical and Applied Anatomy.**—Lectures, illustrated by demonstrations on the cadaver. Sixty hours.
Associate Professor Caldwell.

2. **The Principles of Surgery.**—Wounds, infections, diseases of bones, fractures and dislocations, diseases of blood-vessels, lymphatics, muscles and tendons, nerves, tumors. Aseptic and antiseptic principles. *First semester*, thirty hours.
Associate Professor Whitacre.

3. **Surgical Laboratory.**—Physiologic surgery, shock, anesthesia, hemorrhage, experimental infections; surgical technique, surgical dressings, minor operations. *Second semester*, thirty hours.
Adjunct Professor Kramer.

SENIOR YEAR.

4. **Surgery of the Head, Spine, Neck and Chest.**—Twenty-five hours. Professor Ransohoff.

5. **Surgery of the Abdomen, Rectum, and Anus.**—Thirty hours. Professor Ransohoff.

6. **Diseases of the Thyroid and Mammary Glands.**—Five hours. Professor Oliver.

7. **Specific Urethritis and its Complications; Surgery of the Genito-Urinary Organs.**—Thirty hours.
Adjunct Professor Smith.

ORTHOPEDIC SURGERY.

Professor Freiberg.

SENIOR YEAR.

1. **Orthopedic Surgery.**—Lectures on the etiology of deformities. Diagnostic principles; principal chapters of special orthopedic surgery. Illustration by stereopticon, radiograms, and orthopedic apparatus. Thirty hours.

OBSTETRICS.

Professor Zinke; Assistant Professor Rowe; Dr. Pauli.

Junior Year.

1. **The Anatomy and Physiology of Pregnancy.**—Menstruation and ovulation; the diseases of the fetus. The changes within the maternal organism and the diseases of the new-born. Mechanism and management of labor and the pathology of pregnancy. Lectures, sixty hours. Assistant Professor Rowe.

Senior Year.

2. **Operative Obstetrics.**—Pathology of labor; the pathology of the puerperium. Lectures, thirty hours.

Professor Zinke.

3. **Obstetrics.**—Recitations. Ten hours.

Dr. Pauli.

GYNECOLOGY.

Professor Bonifield.

Senior Year.

1. **Gynecology.**—Lectures on gynecology, embracing general considerations of gynecologic etiology. Diagnosis; malformations, diseases, and displacements of the cervix and uterus; disorders of menstruation; diseases of the urethra, bladder, and ureters; injuries of the perineum; cystocele and rectocele; prolapse and inversion of the uterus; endometritis; diseases of the vulva and vagina; pelvic inflammation, pyosalpinx. *First semester*, fifteen hours.

2. **Gynecology.**—Lectures on gynecology, embracing fibroid tumors, malignant diseases, and tuberculosis of the uterus; tumors of the ovaries, solid and cystic; tuberculosis of the tubes and ovaries; tubal pregnancy; technique and after-treatment of abdominal section for pelvic diseases. *Second semester*, fifteen hours.

OPHTHALMOLOGY.

Professor Sattler.

Senior Year.

1. **The Pathology of Ocular Lesions.**—Lectures on the pathology of ocular lesions, supplemented by clinical instruction at the Cincinnati Hospital. Small class demonstrations in embryology and bacteriology of the eye and in the use of the ophthalmoscope and refraction work at the Ophthalmic Hospital. Thirty hours.

OTOLOGY, RHINOLOGY, AND LARYNGOLOGY.

Professors Holmes and Thompson.

SENIOR YEAR.

1. **Diseases of the Nose, Mouth, Pharynx, and Larynx.**—Illustrated by dry and wet specimens and demonstrations of operative technique. Lectures. *First semester*, fifteen hours.
Professor Thompson.

2. **Diseases of the Ear and Accessory Nasal Sinuses.**—Lectures. *Second semester*, fifteen hours. Professor Holmes.

HYGIENE.

Professor Landis.

SOPHOMORE YEAR.

1. **The Hygiene of Food.**—Transmissible diseases, quarantine, immunity, and preventive inoculation. Air, water, and soil, personal hygiene; municipal hygiene; disposal of refuse and dead; disinfection. Thirty hours.

MEDICAL JURISPRUDENCE AND ECONOMICS.

Dr. Berry.

SENIOR YEAR.

1. **Medical Jurisprudence and Economics.**—Origin of our law courts and procedure; introduction of testimony; expert witnesses. Legal rights and duties of physicians; ethics; nature and value of evidence in cases of wounds, asphyxia, etc. Homicide and suicide; history of the law of insurance, etc.; accident cases. History of the law of insanity; legal responsibility in crime; contracts, testamentary capacity. Personal identity. Business methods. Changes in the human body after death; post mortem. Purposes of organization. Rape; pregnancy; abortion, infanticide. Lectures, thirty hours.

DEPARTMENT OF CLINICAL INSTRUCTION.

PLAN OF INSTRUCTION.

Just as the development of practical laboratory work marks the evolution of teaching in the first two years of medical training of this day, so does the greater employment of demonstrative methods in hospital and dispensary indicate the excellence of the curriculum of a modern school of medicine, in its junior and senior years. The Ohio-Miami Medical College of the University of Cincinnati has, in this respect, a wealth of available material to offer the student in his third and fourth years, which is not to be excelled in any city in the United States. This is true both in regard to the quantity and variety of clinical material, as is also true of its accessibility to the student. Clinical instruction is given in the form of—

(a) Clinical Lectures.—During both semesters two hours of clinical instruction are given daily by the staff of the Cincinnati Hospital in the amphitheater to the junior and senior classes; the hours are from 8:30 to 10:30 A. M. Similar clinical lectures are held in the amphitheater of the Good Samaritan Hospital on Tuesdays, Thursdays and Saturdays; the junior and senior classes are divided into three sections, each of which attends this hospital on these days for a period of ten weeks. Mondays, Wednesdays and Fridays are used for practical instruction of this section in pathology at the Cincinnati Hospital.

(b) Ward Instruction.—The staff of the Cincinnati Hospital are permitted, by the Board of Medical Directors, to give voluntary instruction at the bedside, to small classes.

For the purpose of bedside instruction the junior and senior classes are divided into sections. Bedside instruction is given by the Attending and Junior Attending Staff of the Cincinnati Hospital in the following services: (1) medical; (2) surgical; (3) obstetrical; (4) neurological; (5) dermatological; (6) orthopedic; (7) pediatric; (8) gynecological; (9) ophthalmological; (10) ear, nose, and throat.

(c) Dispensary Instruction.—The dispensary of the college is utilized for this purpose, having a yearly attendance of about 15,000 patients. The dispensary opens at 3:30 P. M. daily. The junior and senior students are expected to appear at 4 P. M., by which time the clinicians in charge will have selected the cases which are to be used for demonstration. The classes are divided into sections

which attend the various clinics in turn, for stated periods. The dispensary exercise is concluded at 5:00 P. M.

HOSPITALS.

Cincinnati has six large hospitals. Of these the largest is the *Cincinnati Hospital*, with a capacity of 500 beds. At the present time the staff of this hospital is composed almost entirely of members of the faculty of the Ohio-Miami College. The clinical material at this hospital alone would amply suffice for the thorough teaching of practical medicine in all of its branches to a large medical school. During the college year the large amphitheater of this hospital is used for two hours daily for operative clinics and clinical lectures to the junior and senior classes. Six hours per week are also utilized for bedside teaching by the Attending and Junior Attending Staff of the hospital, the classes being subdivided into sections for this purpose. The student is thus enabled to spend the entire forenoon of each day during his senior year in one hospital, engaged in practical clinical demonstration. The sections of the junior and senior classes attending the clinical lectures at the Good Samaritan Hospital on Tuesdays, Thursdays, and Saturdays are given bedside instruction in this same hospital on these days. These sections constitute the classes for instruction in pathology at the Cincinnati Hospital on Mondays, Wednesdays, and Fridays. In addition to this, the morgue of the hospital contains a smaller amphitheater in which the autopsies are made and the abundant pathological material is demonstrated by the pathologists of the hospital. They give instruction to sections from the junior and senior classes thrice weekly, from 10:00 to 11:00 A. M. Instruction is of two kinds, namely:

(a) **Autopsy Technique.**—Practical exercise for the student.

(b) **Demonstration in Gross Pathological Anatomy.**—Pathological specimens and organs which have been removed at autopsy and preserved in the refrigerator, and specimens from the museum are demonstratd by the pathologist and his assistants. Whenever practicable, verification and study by means of fresh sections under the microscope are made.

A separate part of the laboratory is devoted to neuro-pathology, and this department, too, commands an abundance of material.

RADIOLOGY.

This thoroughly equipped laboratory is utilized for demonstration of both the therapeutic and diagnostic uses of the X-Ray. This work is given to the class in sections, and will be sufficient

to entitle to twenty hours' credit. A large number of cases is always available for this purpose. The instruction is given by Dr. Sidney Lange, Radiographer of the hospital.

All of the above teaching is done in the Clinical and Pathological School of the Cincinnati Hospital, in affiliation with the University of Cincinnati, the faculty of which is given below:

BOARD OF MEDICAL DIRECTORS OF THE CINCINNATI HOSPITAL.

President, A. B. ISHAM, M. D.
Vice-President, BYRON STANTON, M. D.
Secretary, N. P. DANDRIDGE, M. D.

MEDICAL STAFF.

President, B. K. RACHFORD, M. D.
Vice-President, ROBERT CAROTHERS, M. D.
Secretary, M. L. HEIDINGSFELD, M. D.
Librarian, E. W. MITCHELL, M. D.

CONSULTING STAFF.

Physician:

J. C. MACKENZIE, M. D.

Neurologist:

PHILIP ZENNER, M. D.

Obstetrician and Gynecologist:

C. D. PALMER, M. D.

Oculists:

C. R. HOLMES, M. D.
S. C. AYRES, M. D.

VISITING STAFF.

Physicians:

F. FORCHHEIMER, M. D.
GEORGE A. FACKLER, M. D.
JOHN E. GREIWE, M. D.
MARK A. BROWN, M. D.
E. W. MITCHELL, M. D.
OLIVER P. HOLT, M. D.

Neurologists:

H. H. HOPPE, M. D.
FRANK W. LANGDON, M. D.

Surgeons:

E. W. WALKER, M. D.
JOSEPH RANSOHOFF, M. D.
JOHN C. OLIVER, M. D.
C. E. CALDWELL, M. D.
S. P. KRAMER, M. D.
H. J. WHITACRE, M. D.

Orthopedic Surgeons:

A. H. FREIBERG, M. D.
ROBERT CAROTHERS, M. D.

Dermatologists:

A. RAVOGLI, M. D.
M. L. HEIDINGSFELD, M. D.

Laryngologists and Aurists:

S. E. ALLEN, M. D.
J. W. MURPHY, M. D.

Oculists:

ROBERT SATTLER, M. D.
D. T. VAIL, M. D.

Obstetricians:

W. D. PORTER, M. D.
G. M. ALLEN, M. D.

Gynecologists:

CHARLES A. L. REED, M. D.
JOHN M. WITHROW, M. D.
RUFUS B. HALL, M. D.
SIGMAR STARK, M. D.

Pediatrists:

B. KNOX RACHFORD, M. D.
ALLYN C. POOLE, M. D.

Pathologist and Director of the Laboratories:

P. G. WOOLLEY, M. D.

Dentists:

H. C. MATLACK, M. D.
E. G. BETTY, M. D.

JUNIOR VISITING STAFF.

Physicians:

L. G. HEYN, M. D.
H. L. WOODWARD, M. D.
ALLAN RAMSEY, M. D.

Neurologists:

D. I. WOLFSTEIN, M. D.
ROBERT INGRAM, M. D.

Surgeons:

ARCH I. CARSON, M. D.
CARL HILLER, M. D.
H. H. HINES, M. D.
FRANK FEE, M. D.
D. W. PALMER, M. D.
C. F. HEGNER, M. D.

Orthopedic Surgeon:

J. L. RANSOHOFF, M. D.

Laryngologists:

SAMUEL IGLAUER, M. D.
G. A. HINNEN, M. D.

Oculists:

VICTOR RAY, M. D.
JESSE WYLER, M. D.

Obstetrician:

ROBERT W. THOMAS, M. D.

Pediatrists:

ALFRED FRIEDLANDER, M. D.
F. H. LAMB, M. D.

Dermatologist:

ELMORE E. TAUBER, M. D.

Gynecologist:

JAMES W. ROWE, M. D.

HOUSE STAFF.

Radiographers:

SIDNEY LANGE, M. D.
WM. M. DOUGHTY, M. D., Assistant.

Clinical and Pathological Laboratory and Museum:

W. B. WHERRY, M. D. (*Assistant Director*).
GOODRICH B. RHODES, M. D.
ALBERT J. BELL, M. D.
A. E. OSMOND, M. D.
MARION WHITACRE, M. D.
D. I. WOLFSTEIN, M. D.
JOSEPH T. KENNEDY, M. D.
CHARLES GOOSMANN, M. D.
OSCAR BERGHAUSEN, M. D.
ROBERT MADDOX, M. D.
EUGENE S. MAY, M. D.

Cystoscopist:

A. P. COLE, M. D.

Resident Physician in Pathology:

W. R. ABBOTT, M. D.

Resident Physician:

CHARLES HOWARD, M. D.

Physician to the Branch Hospital:

CHARLES ROCKHILL, M. D.

In 1887 the Board of Trustees of the Cincinnati Hospital authorized the organization of the staff for the purpose of teaching, under the title of the Clinical and Pathological School of the Cincinnati Hospital.

Since 1896 this school has been in affiliation with the medical department of the University of Cincinnati. The organization of the Ohio-Miami Medical College has brought it about that almost all of those who are on the staff of the Clinical and Pathological School of the Cincinnati Hospital are at the same time members of the faculty of the Ohio-Miami Medical College.

The hospital requires the payment of a fee of five dollars for the privilege of clinical instruction in this school. This privilege is open to all third and fourth year medical students in the city who are registered under the state law.

The fees collected from the students are used to support the hospital library and museum.

CLINICAL AND PATHOLOGICAL SCHOOL CINCINNATI HOSPITAL.

AMPHITHEATER CLINICS, 1910–1911.

	HOUR	MON.	TUES.	WED.	THURS.	FRI.	SAT.
Oct. 1910 TO Feb. 1911	8:30 to 9:30	Brown Medicine	Porter Obstetrics	Rachford Pediatrics	Fackler Medicine	Langdon Neurology	Heidingsfeld Dermatology
	9:30 to 10:30	Walker Whitacre Kramer Surgery	Freiberg Orthopedics	Hall Reed Gynecology	Whitacre Kramer Walker Surgery	Vail Murphy Ophthal'gy Laryngology	Forchheimer Medicine
February TO June 1911	8:30 to 9:30	Hoppe Neurology	Holt Medicine	Poole Pediatrics	Greiwe Medicine	Mitchell Medicine	Ravogli Dermatology
	9:30 to 10:30	Ransohoff Oliver Caldwell Surgery	Carothers Orthopedics	Stark Withrow Gynecology	Oliver Caldwell Ransohoff Surgery	S. E. Allen Sattler Laryngology Ophthal'gy	G. M. Allen Obstetrics

THE GOOD SAMARITAN HOSPITAL.

The clinical instruction of this important hospital is conducted exclusively by the faculty, as follows: Professor C. L. Bonifield, President of Staff; Clinical Professor Walter Forchheimer and Assistant Clinical Professor Wylie McL. Ayres, Ophthalmology; Professor Ransohoff and Clinical Professors Carothers and Smith, Surgery; Professor Forchheimer and Clinical Professor Greiwe, Medicine; Professor Bonifield and Dr. Miller, Gynecology; Professor Rachford, Diseases of Children; Dr. Mithoefer, Otology.

The Good Samaritan contains about one hundred beds. There is also, as a tributary, an outdoor department in connection with the hospital, adding materially to its resources. An abundance of clinical material is thus afforded both in the departments of medicine and surgery. The clinical instruction at the bedside is conducted by the members of the staff as described above. Three half days of each week are devoted to clinical lectures and to bedside instruction, which are free to students of this college.

Students of this college only are eligible for interneship in the Good Samaritan Hospital. There are four positions filled anew annually.

OTHER HOSPITALS OF CINCINNATI.

The faculty of the Ohio-Miami Medical College is also very largely represented in the staffs of Christ Hospital, the Jewish Hospital, the German Deaconess Hospital, St. Mary's Hospital, and the Episcopal Hospital for Children. While no regular place in the college schedule is allotted for clinical teaching in these

institutions, there is abundant opportunity for utilizing their large amount of clinical material. It is expected that the students of the senior year will be given frequent opportunity to avail themselves of this privilege.

LONGVIEW HOSPITAL FOR THE INSANE.

As has been done heretofore, the course of clinical lectures on mental diseases will be given at Longview Hospital for the Insane from January to April, 1911. This course will be given under the supervision of Dr. F. W. Harmon, the superintendent of the hospital, by members of the faculty of the Ohio-Miami Medical College. There is an enormous amount of material in this hospital available for the purpose of illustration, and it is unsurpassed in its variety. Admission to these lectures is open to practitioners and senior students. Provision is made in the schedule of the senior year for attendance upon this course; it is mandatory and entitles to credit.

HOSPITAL APPOINTMENTS.

Twenty interneships in the six large hospitals of Cincinnati are filled annually by competitive examination or by appointment. At the present time these positions are practically reserved for members of the senior class of the Ohio-Miami Medical College.

The hospital appointments for the year 1910-'11 are as follows:

CINCINNATI HOSPITAL:

CHARLEY CURTIS JONES.
CHARLES P. KENNEDY.
ERIC RENESCH TWACHTMAN.
CHARLES AUGUST STAMMEL.
MARINUS WILLETT CONWAY.
CLYDE EARL SHINKLE.
JOSEPH GETELSON.
WILLIAM JOSEPH GRAF.
WILLIAM H. NICKELS.
JOHN W. DAEHLER.
FLETCHER LANGDON.
EARL ERNEST BROCK.

GOOD SAMARITAN HOSPITAL:

GEORGE BERNARD TOPMOELLER.
HOWARD LEIGH STITT.
CHARLES KENNETH ERVIN.
FRED. H. HARRIS.

JEWISH HOSPITAL:

COSPER BURTON.
JOHN FREMONT HAMSHER.
CHARLES HENRY STOFFREGEN.
HENRY MICHIE SCHNEIDER.

CHRIST HOSPITAL:

JOHN CHARLESWORTH LITTELL.
LOUIS WADE HEIZER.
LOUIS HOWARD SCHRIVER.
JOSEPH R. ESTERMAN.

ST. MARY'S HOSPITAL:

JOSEPH NATHANIEL HUNTER.
DAVID ADAM KORB.

GERMAN DEACONESS HOSPITAL:

FRANCIS GLENN SMITH.
GEORGE PLATT TYLER, JR.

NATIONAL JEWISH HOSPITAL, DENVER, COL.:

ERNEST CHESTER McCULLOCH.

SOLDIERS AND SAILORS HOME, SANDUSKY, O.:

JOHN HOADLY BERRY.

CITY HOSPITAL, SPRINGFIELD, O.:

OSCAR EDWIN BLOOM.
EARL EUGENE HEATH.

COLLEGE DISPENSARY.

Professor Freiberg, SUPERVISOR.

The college conducts a dispensary for ambulatory cases in a building devoted entirely to this purpose, situated on McMicken Avenue, immediately contiguous to the college building. The dispensary opens at 3:30 P. M. daily, at which time the patients are examined and given treatment by those in charge. At the same time suitable cases are selected for demonstration to the juniors and seniors, who appear for this purpose at 4:00 P. M. The third and fourth year classes are divided into small sections for attendance upon the various departments of the dispensary The clinical material which is here available is of exceedingly great value and is abundant, since about 15,000 cases were recorded during the year. Almost one-half of this number were new cases. The

OTOLOGY, RHINOLOGY, AND LARYNGOLOGY.

Professors Holmes and Thompson.

SENIOR YEAR.

1. **Diseases of the Nose, Mouth, Pharynx, and Larynx.**—Illustrated by dry and wet specimens and demonstrations of operative technique. Lectures. *First semester*, fifteen hours.
Professor Thompson.

2. **Diseases of the Ear and Accessory Nasal Sinuses.**—Lectures. *Second semester*, fifteen hours. Professor Holmes.

HYGIENE.

Professor Landis.

SOPHOMORE YEAR.

1. **The Hygiene of Food.**—Transmissible diseases, quarantine, immunity, and preventive inoculation. Air, water, and soil, personal hygiene; municipal hygiene; disposal of refuse and dead; disinfection. Thirty hours.

MEDICAL JURISPRUDENCE AND ECONOMICS.

Dr. Berry.

SENIOR YEAR.

1. **Medical Jurisprudence and Economics.**—Origin of our law courts and procedure; introduction of testimony; expert witnesses. Legal rights and duties of physicians; ethics; nature and value of evidence in cases of wounds, asphyxia, etc. Homicide and suicide; history of the law of insurance, etc.; accident cases. History of the law of insanity; legal responsibility in crime; contracts, testamentary capacity. Personal identity. Business methods. Changes in the human body after death; post mortem. Purposes of organization. Rape; pregnancy; abortion, infanticide. Lectures, thirty hours.

DEPARTMENT OF CLINICAL INSTRUCTION.

PLAN OF INSTRUCTION.

Just as the development of practical laboratory work marks the evolution of teaching in the first two years of medical training of this day, so does the greater employment of demonstrative methods in hospital and dispensary indicate the excellence of the curriculum of a modern school of medicine, in its junior and senior years. The Ohio-Miami Medical College of the University of Cincinnati has, in this respect, a wealth of available material to offer the student in his third and fourth years, which is not to be excelled in any city in the United States. This is true both in regard to the quantity and variety of clinical material, as is also true of its accessibility to the student. Clinical instruction is given in the form of—

(a) Clinical Lectures.—During both semesters two hours of clinical instruction are given daily by the staff of the Cincinnati Hospital in the amphitheater to the junior and senior classes; the hours are from 8:30 to 10:30 A. M. Similar clinical lectures are held in the amphitheater of the Good Samaritan Hospital on Tuesdays, Thursdays and Saturdays; the junior and senior classes are divided into three sections, each of which attends this hospital on these days for a period of ten weeks. Mondays, Wednesdays and Fridays are used for practical instruction of this section in pathology at the Cincinnati Hospital.

(b) Ward Instruction.—The staff of the Cincinnati Hospital are permitted, by the Board of Medical Directors, to give voluntary instruction at the bedside, to small classes.

For the purpose of bedside instruction the junior and senior classes are divided into sections. Bedside instruction is given by the Attending and Junior Attending Staff of the Cincinnati Hospital in the following services: (1) medical; (2) surgical; (3) obstetrical; (4) neurological; (5) dermatological; (6) orthopedic; (7) pediatric; (8) gynecological; (9) ophthalmological; (10) ear, nose, and throat.

(c) Dispensary Instruction.—The dispensary of the college is utilized for this purpose, having a yearly attendance of about 15,000 patients. The dispensary opens at 3:30 P. M. daily. The junior and senior students are expected to appear at 4 P. M., by which time the clinicians in charge will have selected the cases which are to be used for demonstration. The classes are divided into sections

STUDENTS IN THE OHIO-MIAMI MEDICAL COLLEGE

1909–1910.

SENIORS.

Berry, John Hoadly ..... Hillsboro, O.
Bloom, Oscar Edwin ..... Aurora, Ind.
Brock, Earl Ernst ..... Jeffersonville, O.
Burton, Cosper ..... Aid, O.
Conway, Marinus Willett ..... Cincinnati.
Ervin, Charles Kenneth ..... Greenfield, O.
Esterman, Joseph R. ..... Cincinnati.
Finney, John M. ..... Cedarville, O.
Fouts, John Daniel ..... West Alexandria, O.
Gaballah, Rezgallah ..... Miniah, Egypt.
Getelson, Joseph ..... Cincinnati.
Graf, William Joseph ..... Cincinnati.
Griffith, Oliver Harrison ..... Cincinnati.
Hamsher, John Fremont ..... St. Paris, O.
Hansell, George Hart ..... Guilford, Ind.
Harris, Fred Halsie ..... Rising Sun, Ind.
Heath, Earl Eugene ..... Vevay, Ind.
Heizer, Lewis Wade ..... Georgetown, O.
Hunter, Joseph Nathaniel ..... Rayland, O.
Jones, Charley Curtis ..... Walton, Ky.
Kennedy, Charles P. ..... Cincinnati
Kennedy, Clifford C. ..... Laurel, O.
King, George Wesley ..... Ironton, O.
Korb, David Adam ..... Cincinnati.
Langdon, Fletcher ..... Cincinnati
Lisle, Howard Cochran ..... Springfield, O.
Littell, John Charlesworth ..... Cincinnati.
McCulloch, Ernst Chester ..... Cincinnati.
Nickels, William Henderson ..... Newport, Ky.
Pohlmeyer, Herman Feighery ..... Cincinnati.
Schneider, Henry Michie ..... Cincinnati.
Schriver, Howard ..... Newport, Ky.
Shinkle, Clyde Earl ..... Cincinnati.
Smith, Francis Glenn ..... Reiley, O.
Stammel, Charles August ..... Cincinnati.
Stitt, Howard Leigh ..... Bloomingburg, O.

Stoffregen, Charles Henry .....Carthage, O.
Topmoeller, George B. .....Cincinnati.
Twachtman, Eric Renesch.....Cincinnati.
Tyler, George Platt .....Ripley, O.
Vanpelt, Stanley H. .....Mt. Healthy, O.

JUNIORS.

Arn, Elmer Raymond .....Russellville, O.
Bachmeyer, Arthur Charles .....Cincinnati.
Backsman, Elmore Bernard .....Newport, Ky.
Bentley, James Magee .....Cincinnati.
Boehme, Raymond Gustave .....Newport, Ky.
Braunlin, Edgar Louis.....Portsmouth, O.
Braunlin, Walter Albert .....Portsmouth, O.
Chaney, Only Jerad .....Lynchburg, O.
Coleman, David Coryell .....West Union, O.
Davidson, Marion Tabb .....Covington, Ky.
DeCourcy, Giles Anthony.....Cincinnati.
Elliott, Reuben Jay .....Cincinnati.
Feid, Louis John, Jr.....Cincinnati.
Finefrock, Harry Arthur .....Waynesburg, O.
Gerlach, Earl B. .....Proctorville, O.
Gewert, Arthur C. .....Cincinnati.
Grisard, John S. .....Norwood, O.
Hofling, Charles Andrew .....Cincinnati.
Hord, Winn Estille .....Maysville, Ky.
Huffman, William Felix .....Covington, Ky.
Judkins, Robert John .....Cincinnati.
King, Allen Thurman .....Wyoming, O.
Larabbee, Gilbert Brown .....Osgood, Ind.
Lurie, Louis Aryah .....Cincinnati.
McClelland, Donald Charles .....Huntington, Ind.
McDevitt, Charles Joseph .....Cincinnati.
Martin, Charles Earl .....Bryant, Ind.
Mayberry, Irvin .....Proctorville, O.
Miller, Eli Aeser .....Cincinnati.
Murr, Paul August .....Cincinnati.
Rapp, Allan Blythe .....Owensville, O.
Rapp, Harry Floyd .....Portsmouth, O.
Rasette, Georges .....France.
Renneker, Aloysius Frank .....Cincinnati.
Reuscher, Leo R. .....Newport, Ky.
Spelman, John Dillon .....Cincinnati.

Storer, Elroy Templin .....Oxford, O.
Whallon, Arthur James .....Wyoming, O.
Wiechelman, Clement John .....Cincinnati.
Zielonka, Samuel .....Cincinnati.

SOPHOMORES.

Ailes, Melville D. .....Montra, O.
Benus, Howard .....Cincinnati.
Boyd, Foster Jackson .....Cambridge, O.
Cahall, Lafayette .....Georgetown, O.
Carroll, Harry Ralph .....Cincinnati.
Clark, William Clifford .....Madisonville, O.
Clear, James T. .....Hamilton, O.
Duffey, Joseph A. .....Cincinnati.
Ervin, Humphrey Newton .....Dayton, Ky.
Fennel, Eric .....Cincinnati
Fox, Leon A. .....Cincinnati.
Gilfillen, George Christopher .....Russellville, O.
Gregg, Jake .....West Alexandria, O.
Heisel, Clifford Newell .....Covington, Ky.
Hjelm, Charles Emmett .....Mason, O.
Hunt, Wilbur Alden .....Kennedy Heights, O.
Klein, Elmer Alexander .....Norwood, O.
Lautenschlager, Thurman Holmes .....Dayton, O.
Majoewsky, Leo Rudolph .....Cincinnati.
Miller, Milton Bradford .....Osage City, Kan.
Minges, Theodore .....Cincinnati.
Monnig, John Edward .....Hanging Rock, O.
Moore, Edwin Fletcher .....Cincinnati.
Mytinger, Walter H. .....Chillicothe, O.
Neal, Charles E. .....Covington, Ky.
Okrent, Samuel .....Newport, Ky.
Reid, Robert William .....Cincinnati.
Reynolds, Charles Otis .....Proctorville, O.
Saltzman, Nathan .....Cincinnati.
Schlemmer, Elmer .....Cincinnati
Schulz, Julius C. .....Wilmington, O.
Schwarz, John Gottlieb .....Cincinnati.
Silberstein, Emanuel Leon .....Cincinnati.
Spitler, Roscoe H. .....Greenville, O.
Tangeman, Horace Frederic .....Cincinnati.
Terwillegar, Clyde Byron.....Milford, O.
Topmoeller, William Joseph .....Cincinnati.

Tunison, Clarence Wesley .....Cincinnati.
Westlake, Ida .....Cincinnati.
Williams, Charles Albert S. .....Hamilton, O.
Wood, James Roy.....Bellefontaine, O.
Wright, Allison Branson .....Chesterhill, O.

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Blair, Robert Miller .....Lebanon, O.
Bowen, Stella B. Francis.....Covington, Ky.
Brigman, Lemuel Ruevell .....Newport, Ky.
Brown, Henry Mollyneaux .....New Vienna, O.
Bruns, William Henry .....St. Henry, O.
Buckner, Hubbard Thomas .....Covington, Ky.
Chadwick, Alfred DeWitt .....Hamilton, O.
Conley. Loury Curry Muncie .....Arcadia, Ind.
Crawford, Clay .....Ft. Thomas, Ky.
Eckstein, Gustav .....Cincinnati.
Fitzpatrick, Harry Watterson .....Ludlow, Ky.
Hammond, Harry Joseph .....Buffalo, N. Y.
Hans, Clarence Louis .....Cincinnati.
Hart, Robert Watson .....Spencerville, O.
Heckert, Howard Ray .....Cairo, W. Va.
Hicks, William Morse .....Amelia, O.
Hunter, Matthew Charles .....Greenville, O.
Hutzelman, Jacob Casper .....Hamilton, O.
Kehoe, James Edmund .....Georgetown, O.
Keller, Webster Fels .....Cincinnati.
Kennedy, Edward .....Cincinnati.
Kiely, Charles Edward .....Cincinnati.
Koch, Arthur Eugene .....Newport, Ky.
Kuck, Edward .....Cincinnati.
Layport, William Lee .....Loveland, O.
Levi, Morton Paul .....Cincinnati.
McConaughey, James Collier .....New Carlisle, O.
McGowan, John Vincent .....Hartwell, O.
Mahoney, Thomas William .....Springfield, O.
Meacham, Clanton .....Fulton, Ky.
Miller, Charles LaMont .....Middletown, O.
Mitchell, James Laurence .....Cincinnati.
Overbeck, William Bernard .....Cincinnati.
Petty, Laurence Arthur .....Charleston, W. Va.
Prugh, George Shipley .....Cincinnati.

Reuter, William James .....Cincinnati.
Rosnagle, Francis Ernest .....Franklin, O.
Ryan, Charles Joseph .....Dayton, O.
Schadler, Albert Bernard.....Dayton, O.
Schillinger, Edward N .....Covington, O.
Scott, Murat Halstead .....Harrison, O.
Scott, Verner Trenary .....Manchester, O.
Shannon, William Lawrence .....Newport, Ky.
Smith, Warde Byron .....Austin, O.
Snell, Albert Freeman .....Cincinnati.
VanLue, Joyce Warwick .....Gettysburg, O.
Vaughen, Ray .....West Union, O.
Wigbels, John Bernard .....Norwood, O.
Williams, James Stanley .....Mercerville, O.
Williams, Robert Parvin .....Harrisburg, Pa.
Woodley, Oscar Roy .....Benton Harbor, Mich.

SPECIAL STUDENTS.

Conley, Thomas Francis .....Arcadia, Ind.
DeCourcy, Joseph Luke .....Cincinnati.
Foertmeyer, William Adolphus .....Cincinnati.
Hoerner, Osa .....Lewisburg, O.
Huschart, John Homer .....Cincinnati.
Johnston, Douglas Alexander .....Ft. Wayne, Ind.
Johnston, Eirl Russell .....Hamilton, O.
Perry, Edward Randolph, M. D.....North Yakima, Wash.
Perry, John Smith .....Cincinnati.
Prugh, George Shipley .....Cincinnati.
Rulmann, Clarence F. .....Minster, O.
Staats, James Clinton .....Moscow, O.
Thompson, Gilbert Frank .....Cincinnati.
Wiseman, Orlyn .....Sherritts, O.
Wolfson, Dan .....Cincinnati.
Youngman, Adam George .....Portsmouth, O.

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Second Vice-President,...L. C. READ, M. D., Grand Rapids, Mich.

Third Vice-President.....WILLARD PHERES, M. D., Wichita, Kan.

Fourth Vice-President...J. C. SEXTON, M. D., Rushville, Ind.

Secretary.....CHAS. MAERTZ, M. D., Cincinnati.

Treasurer.....JOHN CALDWELL, M. D., Cincinnati.

Executive Board.. { W. D. HAINES, M. D.
H. J. COOK, M. D....
J. L. TUECHTER, M. D. } Cincinnati.

JEWISH HOSPITAL:

COSPER BURTON.
JOHN FREMONT HAMSHER.
CHARLES HENRY STOFFREGEN.
HENRY MICHIE SCHNEIDER.

CHRIST HOSPITAL:

JOHN CHARLESWORTH LITTELL.
LOUIS WADE HEIZER.
LOUIS HOWARD SCHRIVER.
JOSEPH R. ESTERMAN.

ST. MARY'S HOSPITAL:

JOSEPH NATHANIEL HUNTER.
DAVID ADAM KORB.

GERMAN DEACONESS HOSPITAL:

FRANCIS GLENN SMITH.
GEORGE PLATT TYLER, JR.

NATIONAL JEWISH HOSPITAL, DENVER, COL.:

ERNEST CHESTER McCULLOCH.

SOLDIERS AND SAILORS HOME, SANDUSKY, O.:

JOHN HOADLY BERRY.

CITY HOSPITAL, SPRINGFIELD, O.:

OSCAR EDWIN BLOOM.
EARL EUGENE HEATH.

COLLEGE DISPENSARY.

Professor Freiberg, SUPERVISOR.

The college conducts a dispensary for ambulatory cases in a building devoted entirely to this purpose, situated on McMicken Avenue, immediately contiguous to the college building. The dispensary opens at 3:30 P. M. daily, at which time the patients are examined and given treatment by those in charge. At the same time suitable cases are selected for demonstration to the juniors and seniors, who appear for this purpose at 4:00 P. M. The third and fourth year classes are divided into small sections for attendance upon the various departments of the dispensary The clinical material which is here available is of exceedingly great value and is abundant, since about 15,000 cases were recorded during the year. Almost one-half of this number were new cases. The

arrangement of the work and its supervision are such as to insure efficiency in teaching.

By arrangement with the Visiting Nurses Association, a trained nurse is in constant attendance to assist in surgical operations, caring for instruments, etc.

The dispensary work is arranged as follows:

MEDICINE.

This clinic is equipped with a waiting-room, a small amphitheater for fifty students, and a room for clinical microscopy and chemistry. Daily. Drs. Fihe, Stix, Ingram, M. Whitacre.

SURGERY.

This consists of a waiting-room, and a treatment-room which is equipped with sterilizing apparatus and with all means for demonstrating minor surgical operations. Daily. Drs. Langdale, J. L. Ransohoff, Hegner, Rhodes, May, Caldwell.

PEDIATRICS.

This division has a large attendance. Opportunity is given for practical instruction in vaccination. Daily. Assistant Clinical Professors Friedlander, F. H. Lamb, Bell; Drs. Woodward, Dreyfoos, Hollingshead.

GYNECOLOGY.

Daily. Drs. J. D. Miller, J. A. Hall, Baker, Wilkinson.

OPHTHALMOLOGY.

This department has a waiting-room, a lecture-room for forty, and a dark-room in which refraction work and ophthalmoscopy are carried on. Daily. Clinical Professors Tangeman and Walter Forehheimer; Assistant Clinical Professors Ayres and Ray; Drs. Ranly, Behrman, Cross, F. W. Lamb, King, Southgate.

EAR, NOSE, AND THROAT.

This is a large clinic in which students are given an opportunity for doing many of the minor operations. Six times per week. Associate Professors Iglauer and W. E. Murphy; Drs. Thrasher, Hinnen, Mithoefer, Williams, Thomasson, Dauch.

NEUROLOGY.

Twice weekly. Assistant Clinical Professor Wolfstein and Dr. Tuechter.

DERMATOLOGY.

Twice weekly. Professor Heidingsfeld; Drs. Tauber and J. W. Miller.

ORTHOPEDIC SURGERY.

Twice weekly. Professor Freiberg; Drs. McClure and Maddox.

GENITO-URINARY SURGERY.

Three times weekly. Adjunct Professor Smith and Dr. Webb.

DISEASES OF THE CHEST.

In order to utilize the very large amount of material from the Cincinnati Branch Hospital for Tuberculosis, it has been arranged to bring patients to the dispensary for demonstration and instruction. Once weekly. Dr. Rockhill.

ELECTROTHERAPEUTICS.

The Laboratory of Electrotherapeutics, which is situated in the main college building, is utilized for instruction in this important branch as a department of the dispensary. X-Ray apparatus is now installed in the dispensary building. Twenty hours' credit will be given for this work. Dr. Dunham.

OBSTETRICS.

The college maintains an outdoor obstetrical department, which is in charge of Doctor F. A. S. Kautz, who is assisted by Drs. Young, William S. Kautz, Molony, and Pauli. By means of this organization the college is able to offer unusual facilities for the study of practical obstetrics, and each senior student will be enabled to personally attend women in confinement. Each member of the graduating class must present written reports in detail of four cases of labor which he has personally attended. The city has been divided into a number of districts, each one of which is in charge of one of the assistant clinical instructors above mentioned, who will give aid and instruction to students attending cases in their respective neighborhoods. By reason of this organization an abundance of clinical material is always available, so that it should be possible to give the greater number of students even more practical experience than is required by the college.

STUDENTS IN THE OHIO-MIAMI MEDICAL COLLEGE

1909-1910.

SENIORS.

Berry, John Hoadly ..... Hillsboro, O.
Bloom, Oscar Edwin ..... Aurora, Ind.
Brock, Earl Ernst ..... Jeffersonville, O.
Burton, Cosper ..... Aid, O.
Conway, Marinus Willett ..... Cincinnati.
Ervin, Charles Kenneth ..... Greenfield, O.
Esterman, Joseph R. ..... Cincinnati.
Finney, John M. ..... Cedarville, O.
Fouts, John Daniel ..... West Alexandria, O.
Gaballah, Rezgallah ..... Miniah, Egypt.
Getelson, Joseph ..... Cincinnati.
Graf, William Joseph ..... Cincinnati.
Griffith, Oliver Harrison ..... Cincinnati.
Hamsher, John Fremont ..... St. Paris, O.
Hansell, George Hart ..... Guilford, Ind.
Harris, Fred Halsie ..... Rising Sun, Ind.
Heath, Earl Eugene ..... Vevay, Ind.
Heizer, Lewis Wade ..... Georgetown, O.
Hunter, Joseph Nathaniel ..... Rayland, O.
Jones, Charley Curtis ..... Walton, Ky.
Kennedy, Charles P. ..... Cincinnati
Kennedy, Clifford C. ..... Laurel, O.
King, George Wesley ..... Ironton, O.
Korb, David Adam ..... Cincinnati.
Langdon, Fletcher ..... Cincinnati
Lisle, Howard Cochran ..... Springfield, O.
Littell, John Charlesworth ..... Cincinnati.
McCulloch, Ernst Chester ..... Cincinnati.
Nickels, William Henderson ..... Newport, Ky.
Pohlmeyer, Herman Feighery ..... Cincinnati.
Schneider, Henry Michie ..... Cincinnati.
Schriver, Howard ..... Newport, Ky.
Shinkle, Clyde Earl ..... Cincinnati.
Smith, Francis Glenn ..... Reiley, O.
Stammel, Charles August ..... Cincinnati.
Stitt, Howard Leigh ..... Bloomingburg, O.

Stoffregen, Charles Henry .....Carthage, O.
Topmoeller, George B. .....Cincinnati.
Twachtman, Eric Renesch.....Cincinnati.
Tyler, George Platt .....Ripley, O.
Vanpelt, Stanley H. .....Mt. Healthy, O.

JUNIORS.

Arn, Elmer Raymond .....Russellville, O.
Bachmeyer, Arthur Charles .....Cincinnati.
Backsman, Elmore Bernard .....Newport, Ky.
Bentley, James Magee .....Cincinnati.
Boehme, Raymond Gustave .....Newport, Ky.
Braunlin, Edgar Louis.....Portsmouth, O.
Braunlin, Walter Albert .....Portsmouth, O.
Chaney, Only Jerad .....Lynchburg, O.
Coleman, David Coryell .....West Union, O.
Davidson, Marion Tabb .....Covington, Ky.
DeCourcy, Giles Anthony.....Cincinnati.
Elliott, Reuben Jay .....Cincinnati.
Feid, Louis John, Jr.....Cincinnati.
Finefrock, Harry Arthur .....Waynesburg, O.
Gerlach, Earl B. .....Proctorville, O.
Gewert, Arthur C. .....Cincinnati.
Grisard, John S. .....Norwood, O.
Hofling, Charles Andrew .....Cincinnati.
Hord, Winn Estille .....Maysville, Ky.
Huffman, William Felix .....Covington, Ky.
Judkins, Robert John .....Cincinnati.
King, Allen Thurman .....Wyoming, O.
Larabbee, Gilbert Brown .....Osgood, Ind.
Lurie, Louis Aryah .....Cincinnati.
McClelland, Donald Charles .....Huntington, Ind.
McDevitt, Charles Joseph .....Cincinnati.
Martin, Charles Earl .....Bryant, Ind.
Mayberry, Irvin .....Proctorville, O.
Miller, Eli Aeser .....Cincinnati.
Murr, Paul August .....Cincinnati.
Rapp, Allan Blythe .....Owensville, O.
Rapp, Harry Floyd .....Portsmouth, O.
Rasette, Georges .....France.
Renneker, Aloysius Frank .....Cincinnati.
Reuscher, Leo R. .....Newport, Ky.
Spelman, John Dillon .....Cincinnati.

Storer, Elroy Templin .....Oxford, O.
Whallon, Arthur James .....Wyoming, O.
Wiechelman, Clement John .....Cincinnati.
Zielonka, Samuel .....Cincinnati.

SOPHOMORES.

Ailes, Melville D. .....Montra, O.
Benus, Howard .....Cincinnati.
Boyd, Foster Jackson .....Cambridge, O.
Cahall, Lafayette .....Georgetown, O.
Carroll, Harry Ralph .....Cincinnati.
Clark, William Clifford .....Madisonville, O.
Clear, James T. .....Hamilton, O.
Duffey, Joseph A. .....Cincinnati.
Ervin, Humphrey Newton .....Dayton, Ky.
Fennel, Eric .....Cincinnati
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Gilfillen, George Christopher .....Russellville, O.
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Hjelm, Charles Emmett .....Mason, O.
Hunt, Wilbur Alden .....Kennedy Heights, O.
Klein, Elmer Alexander .....Norwood, O.
Lautenschlager, Thurman Holmes .....Dayton, O.
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Miller, Milton Bradford .....Osage City, Kan.
Minges, Theodore .....Cincinnati.
Monnig, John Edward .....Hanging Rock, O.
Moore, Edwin Fletcher .....Cincinnati.
Mytinger, Walter H. .....Chillicothe, O.
Neal, Charles E. .....Covington, Ky.
Okrent, Samuel .....Newport, Ky.
Reid, Robert William .....Cincinnati.
Reynolds, Charles Otis .....Proctorville, O.
Saltzman, Nathan .....Cincinnati.
Schlemmer, Elmer .....Cincinnati
Schulz, Julius C. .....Wilmington, O.
Schwarz, John Gottlieb .....Cincinnati.
Silberstein, Emanuel Leon .....Cincinnati.
Spitler, Roscoe H. .....Greenville, O.
Tangeman, Horace Frederic .....Cincinnati.
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Fitzpatrick, Harry Watterson .....Ludlow, Ky.
Hammond, Harry Joseph .....Buffalo, N. Y.
Hans, Clarence Louis .....Cincinnati.
Hart, Robert Watson .....Spencerville, O.
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Hunter, Matthew Charles .....Greenville, O.
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Kiely, Charles Edward .....Cincinnati.
Koch, Arthur Eugene .....Newport, Ky.
Kuck, Edward .....Cincinnati.
Layport, William Lee .....Loveland, O.
Levi, Morton Paul .....Cincinnati.
McConaughey, James Collier .....New Carlisle, O.
McGowan, John Vincent .....Hartwell, O.
Mahoney, Thomas William .....Springfield, O.
Meacham, Clanton .....Fulton, Ky.
Miller, Charles LaMont .....Middletown, O.
Mitchell, James Laurence .....Cincinnati.
Overbeck, William Bernard .....Cincinnati.
Petty, Laurence Arthur .....Charleston, W. Va.
Prugh, George Shipley .....Cincinnati.

Reuter, William James .....Cincinnati.
Rosnagle, Francis Ernest .....Franklin, O.
Ryan, Charles Joseph .....Dayton, O.
Schadler, Albert Bernard.....Dayton, O.
Schillinger, Edward N .....Covington, O.
Scott, Murat Halstead .....Harrison, O.
Scott, Verner Trenary .....Manchester, O.
Shannon, William Lawrence .....Newport, Ky.
Smith, Warde Byron .....Austin, O.
Snell, Albert Freeman .....Cincinnati.
VanLue, Joyce Warwick .....Gettysburg, O.
Vaughen, Ray .....West Union, O.
Wigbels, John Bernard .....Norwood, O.
Williams, James Stanley .....Mercerville, O.
Williams, Robert Parvin .....Harrisburg, Pa.
Woodley, Oscar Roy .....Benton Harbor, Mich.

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Conley, Thomas Francis .....Arcadia, Ind.
DeCourcy, Joseph Luke .....Cincinnati.
Foertmeyer, William Adolphus .....Cincinnati.
Hoerner, Osa .....Lewisburg, O.
Huschart, John Homer .....Cincinnati.
Johnston, Douglas Alexander .....Ft. Wayne, Ind.
Johnston, Eirl Russell .....Hamilton, O.
Perry, Edward Randolph, M. D.....North Yakima, Wash.
Perry, John Smith .....Cincinnati.
Prugh, George Shipley .....Cincinnati.
Rulmann, Clarence F. .....Minster, O.
Staats, James Clinton .....Moscow, O.
Thompson, Gilbert Frank .....Cincinnati.
Wiseman, Orlyn .....Sherritts, O.
Wolfson, Dan .....Cincinnati.
Youngman, Adam George .....Portsmouth, O.

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H. J. COOK, M. D....
J. L. TUECHTER, M. D. } Cincinnati.

University of Cincinnati Record

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University Day, 1909 || Commencement, 1910

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UNIVERSITY DAY, 1909

COMMENCEMENT, 1910

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THE UNIVERSITY OF CINCINNATI

COMPRISES THE FOLLOWING DEPARTMENTS:

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II.

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III.

THE COLLEGE FOR TEACHERS.

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THE COLLEGE OF ENGINEERING.
(Mechanical, Electrical, Civil, and Chemical Engineering.)

V.

THE COLLEGE OF LAW.
(The Cincinnati Law School.)

VI.

THE OHIO-MIAMI MEDICAL COLLEGE.
(The Ohio and the Miami Medical Colleges, United.)

VII.

THE DEPARTMENT OF CLINICAL MEDICINE.
(The Clinical and Pathological School of the Cincinnati Hospital, Affiliated.)

For the special announcements of the various departments and further information, address:

THE SECRETARY OF THE UNIVERSITY,
Cincinnati, Ohio.

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CALENDAR.

1909

Wednesday, December 1st:
University Day.

1910

COMMENCEMENT EVENTS.

Thursday, May 26th:
Phi Beta Kappa Day.

Sunday, May 29th:
Baccalaureate Sermon.

Monday, May 30th:
Senior Banquet.

Wednesday, June 1st:
Senior Class Play.

Thursday, June 2d:
Senior Girls' Luncheon.
Faculty — Senior Law Luncheon.

Friday, June 3d:
Class Day Exercises.
Faculty — Senior Baseball Game.
Medical Alumni Reunion.

Saturday, June 4th:
Commencement Exercises.
Alumnæ Luncheon.
Alumni — Senior Baseball Game.
Alumni Banquet.

Saturday, June 11th:
Law Alumni Reunion, Class of '95.

UNIVERSITY DAY.

December 1, 1910.

CELEBRATING THE OPENING OF THE OHIO-MIAMI MEDICAL COLLEGE OF THE UNIVERSITY OF CINCINNATI.

In accordance with the custom of setting aside a day each year for the commemoration of some fitting event in the progress of the institution, University Day in 1909 was given over to the celebration of the union of the Ohio and Miami Medical colleges and the founding of the new Ohio-Miami Medical College. The exercises were held in the evening of December 1st, in McMicken Hall, and were attended by a large representative gathering of the medical fraternity and their friends.

President Dabney gave a short history of the growth of medical education in Cincinnati, and was followed by Dr. E. O. Smith, Secretary of the Medical Faculty, who read numerous letters of congratulation for the new college from the President of the United States and various college officials, and who welcomed the speaker of the evening, Dean Victor Clarence Vaughan, M. D., Ph. D., LL. D., of the College of Medicine of the University of Michigan. Dr. Vaughan delivered a notable address on "The Future of the Medical Profession." The formal exercises of the occasion were then followed by a general reception to the speaker and the visitors.

THE FUTURE OF THE MEDICAL PROFESSION.

By VICTOR CLARENCE VAUGHAN, M. D., Ph. D., LL. D.,

Dean of the College of Medicine, University of Michigan.

Mr. President and Colleagues: We are here to rejoice over the union of the Ohio and the Miami Medical colleges, which have become one school, the medical department of the University of Cincinnati. Each of these schools has an honorable history. Leaders and pioneers in the profession have made up their faculties, and men of most honorable record are to be found among their graduates. This amalgamation has been accomplished at much personal sacrifice on the part of some connected with each institution. When any institution of the rank and prestige held so many years by each of these schools loses its individuality some of the dreams of the past must come to naught. This is by no means an isolated instance of the merger of medical schools within the past few years in this country. In various sections this has already been accomplished. The number of medical schools is decreasing and this decrease is being brought about by the profession itself. Not only is the number of medical schools being diminished, but in all the better medical schools the bars to admission are being raised higher each year. This is a commercial age and this is preeminently a commercial country, and yet the medical profession is ridding itself of commercialism. It is demanding of those who desire to enter its ranks a higher degree of culture and intelligence than is demanded of any other profession in this country. The average requirement for admission to our best medical schools is at least two years ahead of that demanded for admission to other professional schools, and after admission, from one to two years more of time is demanded for graduation. Our best medical schools are demanding a more advanced preliminary education of their matriculates and more time in the course, and yet the

financial inducements to enter the profession are falling year by year. It requires not only more time but more money to enter the medical than any other profession. In our universities in which both law and medicine are taught the students in the two schools pay practically the same tuition and annual fees, while in addition to these the medical student must pay extra laboratory expenses. A young man in my own state may, after finishing his high school, enter the law department of the university and graduate after three years, or, if he chooses, he may read law in an office for fifteen months, then enter the law school and graduate after two years. If he wishes to study medicine, after completing his high school course, he must spend at least two years in the collegiate department of the university before he can enter upon his medical studies, for which four more years are required.

Every state in the Union has a minimum legal requirement for the practice of medicine, and in some this requirement is high enough to exclude all save those who have had the best training. This restriction is for the benefit of the people, and not in the interests of the profession. Unfortunately, these legal enactments fail to reach many pseudo-medical practitioners who still prey upon the credulity of the public, such as the nostrum vender, the advertising charletan, the abortionist, *et omne id genus.*

The medical profession is giving liberally of its energy, time, and money in every branch of sanitation. It is doing its best in the restriction and prevention of disease. Many of our best men are serving on state, municipal, and village boards of health, often without any pecuniary remuneration, and in practically all instances without adequate financial reward. The physician not only pays the taxes upon what property he possesses, but day and night he is rendering extra service to the poor of his community, and it must be admitted that many of the well-to-do trespass upon his generosity. The clinic established for the treatment of the poor is crowded with the rich, often to the practical exclusion of those for whose benefit the charity was intended.

Let us see what the condition of the medical man in this country is today. In order to enter a good medical school, he

must have a better preliminary education than is demanded for admission to any other professional school. Having gained admission, he must spend more money and take more time in order to gain his degree than any other profession demands. Then the young man with his degree finds it highly advantageous to take one or more years of hospital work for which he receives no financial remuneration. Before he can offer his services to the public he must pass a state examination which is more rigid than that demanded of any other profession. Finally, having hung out his sign, he walks to his dispensary or hospital, where he offers his dearly bought skill and experience to the deserving poor, many of whom ride to the same place in costly motor cars. He serves without recompense upon boards of health, and does his best to prevent disease upon the existence of which his bread and butter depend. He writes papers and gives lectures upon sanitation, and the more his advice is accepted and followed, the smaller is the number of his paying patients. When he is treating any case of infectious disease the physician, in preventing the spread of the infection, is rendering a service to the public, which as a rule is unrecognized and seldom rewarded. In legislative halls he is crowded aside by the followers of pseudo-medicine. If his name gets into the daily papers favorably in connection with any case under his charge, his professional brethren scold, while the bold advertisement of the nostrum vender, the so-called specialist, and the abortionist stare at him from the pages of both the secular and religious press. He lectures on the prevention and eradication of tuberculosis, telling how people should live in order to prevent this disease. He says that outdoor life, good, wholesome food, and sanitary surroundings are the essentials, and he helps to make up the millions annually required on account of the postal deficiency, while the government mail carries to the remotest corners of the county the lying promises of so-called consumption cures. He attempts to show how intemperance saps the health of body and mind and fills our asylums, while the most deadly forms of alcohol are freely sold at exorbitant prices under the delusive names of stomach bitters, celery compound, peruna, etc. He shows the deteriorating effect of venereal disease. He tells that a large per cent of his gynecological operations results from this cause, while

the "restorer of lost manhood" sprinkles the pages of the Sunday newspaper with his nauseating "ads." He pays a high duty on the imported microscope with which he watches the agglutination of typhoid bacilli in his early recognition of the disease, preparatory to recommending measures that may avert the epidemic, while the sugar trust bribes the custom inspector and the corporation accumulates its millions. He pays a double price for the knife with which he removes the cancerous breast of the poor woman, because the steel trust must declare a dividend.

Twenty years ago there were many medical schools in this country, owned and controlled by their faculties, to the members of which there came either directly or indirectly each year a fair financial return on the investment. It did not cost much to inaugurate and maintain a medical school at that time. A suitable building with one or two large lecture rooms, a garret for a dissecting room, a small chemical laboratory, a museum with specimens from the clinic, and some inexpensive apparatus for demonstrating the elements of physics and chemistry were the essentials. The session was only six months, and two sessions completed the course. The lectures were repeated each year and both classes attended the same lectures. Possibly some member of the faculty had a microscope, which might be seen, protected from the dust, under a glass case. It was rumored among the students that a drop of water seen through this instrument had been found to be teeming with life. Rarely some professor was bold enough to actually use the microscope, and possibly he exhibited diatoms, uric acid crystals, and sections of bone.

This is all changed. The medical building with all needed laboratories and equipment costs hundreds of thousands of dollars. Skilled men giving their entire time to the work are demanded in all the laboratory branches, and even the clinician has but little time for outside remunerative work.

I do not think that I have overdrawn the picture of the present conditions of the medical man in this country. The medical schools that were paying properties thirty years ago are now being donated to the universities. Medical education has become so expensive that it can be provided only by institutions that are endowed or receive financial support from the state or

the municipality. The advance made in medical education in this country in the past ten years is greater than that of any other profession. To fit one for the practice of medicine, higher preliminary training, more time and more money are required. Notwithstanding these things, the average income of the medical practitioner in this country is decreasing year by year. He does much for the public good for which he receives neither recognition nor reward. As a member of this profession I am making these statements without the slightest bitterness and even without complaint, because I believe that the profession is preparing itself to do the greatest good for the race, that it is in training to render mankind the highest service, and that its members in the near future must be leaders in an evolution such as the world has never known. I am by no means sure that the profession in general is to be credited with being conscious of the great work that lies before it, or of preparing itself for the high station to which it is to be called. The civilized world has reached a period in its evolution in which the educated medical man must play an important part. Without his help the development of the race can not proceed as it should. Man has reached a period in his development when he has become conscious of the fact that the great work of advancing his race towards physical, intellectual, and moral perfection is a duty which falls upon himself. The creature has been elevated to the dignity and power of a creator, and this imposes upon him a responsibility that he may not and can not avoid.

The history of civilization is being re-written, and in the light of today there is being read into it a lesson that the world can not ignore. History has heretofore dealt almost exclusively with questions of politics, with literature, customs, manners, etc. The influence of disease upon the decline and fall of nations has been until recently overlooked. Professor Jones has shown quite conclusively that the plasmodium of malaria was the greatest factor in the decay of Greek civilization and did much tc render the once virile Roman an easy victim to the more robust Goth and Vandal. The buried cities of Asia and northern Africa fell into ashes under the withering curse of disease. In Spain the Moors reached a high degree of civilization. They built the wonderful city of Cordova and filled its great library with the

most advanced science of the day. This people supplied the most skilful physicians of the time. Returned to Africa, their descendants degenerated into barbarians whom today we know as the Riffs of Morocco.

Civilized people have come to a realization of the fact that disease constitutes the greatest bar to human progress, and that nation which first frees itself from the bondage of disease will dominate all others. In that land the superman will first be born. Two conditions are essential before any nation can free itself from disease. In the first place it must possess an educated scientific medical profession. In the second place, the nation as a whole must be guided by the advice of its best medical men. With either of these conditions wanting no people will be able to advance.

Are we, the people of the United States, held in the bondage of disease? One out of every seven of us die of tuberculosis; fifty thousand of us perish annually of typhoid fever, and ten times this number lie striken for weeks each year with this disease, but ultimately recover. Pneumonia disputes with tuberculosis the right to be called the captain of death. Some fifty thousand of us die annually of cancer and other malignant growths, more than twenty-five per cent of our children die before they reach five years of age. In short, more than eighty per cent of us die from causes that are preventable, and which the enlightened nation of the future will prevent.

I am not sure that our nation will be able to fully comply with either of the conditions mentioned. I do know that the better medical schools in this country are doing their best to prepare the profession of the future for this work. Encouragement in regard to the second condition comes from the general interest shown in the recently developed campaign against tuberculosis, the large and small contributions in aid of this work, and the ready response made by many of our state legislatures in the enactment of laws tending to restrict this and other infectious diseases; also from the generous contributions that have recently been made for the study and abatement of uncinariasis and pellagra. We, of the profession, have frequent cause for impatience with the laity for their indifference towards matters of public health, but we should remember that the attitude of the

world towards the causation of disease can not be suddenly and completely changed. Disease has for countless generations been regarded as of divine or mystic origin, as an infliction from heaven, sent either in love or in anger. This old superstition still casts its shadow over us and consciously or unconsciously influences the conduct of many. It is difficult for a nation within a generation to cast off the superstitions of the fathers. This can be done, however, by instructing the children in sanitary matters. Leibnitz said: "Give me control of education for a generation and I will change the world."

What will be some of the functions of the medical man of the future? In my opinion, the most important of these may be grouped in certain classes, and it is of the greatest importance that these should be fully appreciated, especially by those interested in medical education. In the first place, that nation will be most favorably situated which does the most for the prosecution of medical research. Every scientific medical discovery so far made has been a blessing to mankind. Medicine has not been advanced by philosophical dogma; it has grown and has yielded its rich and beneficent fruits only as a result of slow, laborious research. The chemist, bacteriologist, pathologist, and clinician have obtained results, not by sitting in their studies or libraries and evolving theories from their inner consciousness, but by experimentation and close, accurate observation in their laboratories, and at the bedside. For more than a thousand years before the time of Pasteur there were occasional medical men who believed that certain diseases are spread by living contagions. In the fifth century before our era Empedocles of Agrigento taught that stagnant water breeds disease and he is said to have delivered the city of Selinunte from an epidemic of fever by draining a swamp in the vicinity. And yet, in the year 1905, twenty-four centuries later, according to Ross, out of a total population of about two and one half millions in Greece not less than one million had malaria and nearly six thousand died from this disease. About two thousand years ago Varro in his "Rerum rusticarum," in advising concerning the location of a country house, wrote as follows: "Adimadvertendum etiam si qua erunt loca palustria, et propter easdem causas, et quod crescunt animalia quaedam minuta,

quae non possunt occuli consequi, et per aera intus in corpus, per os ac nares perveniunt atque difficiles efficiunt morbos," and yet the plasmodium of malaria devastated the fair fields of southern Italy and continued to hold sway, awaiting the time when a French army surgeon, Laveran, at an isolated post in the same malaria-ridden Africa, should demonstrate the cause of this disease, the giant enemy to the civilization of the Mediterranean coast. Then came the researches of Ross and others by which the part played in the distribution of malaria by the mosquito was demonstrated, and now the fertile lands of the Roman campagna promise to become the home of a busy, contented, and happy people. Findlay thought that a certain mosquito might be a factor in the distribution of yellow fever, but this was demonstrated to be a fact only by the careful and heroic investigations of Reed and his colleagues Small-pox was well-nigh universal until the careful observations and practical experiments of Jenner relieved man of the heavy tribute that he paid to this disease in death and disfigurement. Anthrax and hydrophobia levied a heavy tax on both man and beast until brought under man's control by the genius of Pasteur. Diphtheria with its death rate of from fifty to sixty per cent alarmed the physician and awakened the horror of the community until the patient labors of Behring and Roux gave the world antitoxin. The beneficent action of anesthesia was foreshadowed by Davy and brought to full realization by the experiments of Long, Wells, Jackson, and Morton. The true nature of tuberculosis was brought to light by the studies of Vilemin and Koch, and upon the knowledge thus gained it is within the power of man to stamp out this and other infectious diseases. A list of the great discoveries of scientific medicine is too long to give fully. This investigation into the causation and prevention of disease is not complete, it is barely begun. No disease that afflicts man or beast is thoroughly understood; in all cases the knowledge in the possession of the wisest medical man is but fragmentary, and in regard to the nature of many diseases we are still in complete ignorance. For instance, we know practically nothing as yet of the cause of cancer and but little of that of insanity. We are just beginning to practice vaccination against typhoid fever and other acute infections. The greatest

problem that lies before the most advanced nations today is to free themselves from disease, and this can be accomplished in only one way, and that is, the development and maintenance of medical research. This is a national and community problem, and that nation which does this most generously and most wisely will dominate the world, because it will become the strongest and the best. At present it must be admitted that Germany is in the lead, and the predominance of the German is due to his universities and the encouragement that he has given to scientific research. American medical research grows stronger year by year. There are numerous laboratories that are turning out most creditable work, but we need more of them and better equipment for those we have. The nation, the several states, and the large cities can make no better investment than that given for the purpose of widening the knowledge necessary to keep the people in health. We may reasonably hope that the discoveries to be made in our laboratories will tend to decrease poverty, diminish sickness, prolong life, increase the effectiveness of the individual, add to the comfort and contentment of the people, and give to our country in the coming generations stronger and better men and women. A certain number of medical men of the future must give their lives to research work. However, this number will always be relatively small.

It is my intention to speak especially of the medical practitioner of the future. This individual's duties are to be quite different from those of the medical practitioner of the past, and if the world is to profit, as I hope it may, by the aid of medical science, the attitude of the profession toward the public and that of the public toward the profession must radically change. Heretofore the medical man has been taught from the beginning of his professional studies that he must not talk about professional matters to the laity. He has been made to feel that his duty is to practice and not to preach. To a certain extent this is wise and must hold for the future, as it has for the past. The practice of the profession, so far as the relations of physician and patient are concerned, is sacred and must not become matter for gossip. All understand this and no man worthy to be a member of the profession will for a mo-

ment forget or cease to hold sacred his relation to his patient. But the medical man of the future must become a public teacher, instructing his community and advising with those in authority concerning the good of the whole. In doing this he must use, in a proper manner, of course, the usual avenues of reaching the public, such as the popular magazine and the daily newspaper. Up to the present time the only instructor of the public in matters pertaining to disease has been the charlatan who has made extensive use of the daily press. This must be altered for the public good. The medical man must disseminate through this and other avenues the knowledge necessary to combat disease, and there has been nothing more encouraging in the attempt, just now begun, and of necessity led by the profession, to stamp out tuberculosis and to diminish the other infectious diseases than the readiness with which the newspapers of this country have taken up the matter. The national antituberculosis society is sending twice a month material bearing on this subject to hundreds of newspapers, and they are making proper use of it. I know of no reputable newspaper that has declined to participate in this great work. The best and most accurate information concerning the prevention of disease must be diffused through the masses. The medical man of the future must talk and write on these subjects not exclusively for the benefit of his fellows in the profession, but especially for those outside of it. Ignorance concerning these matters is appalling not only among the uneducated but among the educated as well. There are many teachers in our public schools, not only in the primary and secondary schools, but in our colleges and even in our universities as well, who are in absolute ignorance of the most elementary principles of hygiene. There are master architects planning our buildings, both public and private, who have no knowledge of ventilation. They may produce imposing elevations and design beautiful cornices and pleasing facades, but they are ignorant of the proper distribution of air and light. I predict that the time does not lie many generations in the future when many of the national, state, and municipal buildings upon which the present looks with pride will be regarded as relics of a barabric, at least a semi-barbaric, past. There are members on our public water

commissions who could not distinguish between a typhoid bacillus and a yeast plant. As a rule, the men who enact our laws, both national and state, know nothing of that greatest asset that a people may have, which is health. Sometimes this amounts to a national calamity. I need only refer to the fact that when we last assembled a great army, within less than three months, and without seeing the enemy, nearly one fifth of those who enlisted were incapacitated by disease. This was due essentially to two things. First, Congress in its stupidity and ignorance had failed to make proper provision for the medical service. There was not a microscope in a camp in the United States army in 1898, so far as I know, until the necessity for its use was made evident by thousands of cases of typhoid fever, at first wrongly diagnosed as malaria—a mistake that could not have been made had the medical service been equipped as the then surgeon general wished it to be. But Congress would not listen to the man who was regarded by many of its members as only a scientific crank. In the second place, the line officer of that time, and no one appreciates his high average character more than I do, and I saw much of him, was too often deaf to his medical assistant and comrade. Shortly after the Japanese-Russian war I had occasion to compliment a high medical officer of the former nation on the low Japanese death rate from disease, when he replied: "We know nothing more about the hygiene of armies than you do. In fact, what we do know we learned from America and Europe, but our line officers accepted our advice so far as was possible."

Health is, as I have stated, a nation's best asset, and yet the sums devoted to maintaining the health of our people by the nation and by the several states are paltry in the extreme.

We need not worry about a low birth rate, but we should regard a high death rate as a national disgrace and a sign of national decay. As the race grows wiser and stronger in body and intellect these rates quite naturally approach the same level. This was made plain by Herbert Spencer more than fifty years ago. No nation that neglects the health of its people can hope to endure, and that government that secures for its citizens the longest average life in health is the best, whatever its tariff laws may be. These facts are being understood

more or less thoroughly by some of the most advanced nations, and in doing this work the medical profession must lead the way. The medical educators of this country realize this much more fully than any one else can, and laying aside personal ambitions and especially pecuniary considerations, they are striving to prepare for the next generation a profession made up of men of broad culture and of special scientific skill. This is the explanation of mergers in medical colleges, of the rapid advance in the requirements for admission to medical schools, and for the extension of the course. The medical man of the future must be a leader in all that pertains to the highest welfare of his country. His help is necessary in order to relieve the people from the bondage of disease.

Permit me to briefly point out some of the specific ways in which the medical profession can be of benefit to the people. The civilized world is awakening to the knowledge that the infectious diseases are preventable, the most enlightened of the nations are adopting measures to prevent them, and there is to be a healthy rivalry among the countries to see which can do this first and in the most effective manner. This is demonstrated by the crusade now being inaugurated against tuberculosis. We may reasonably expect improved methods in the treatment of this disease, and such knowledge as will give this to us must come as a result of the labors of scientific medical men. But the great effort must be made in its prevention, and this is, and will continue to be, a community problem, into which the nation, the state, and the locality must throw their best and wisest efforts. Knowledge of the nature of the disease, its avenues of dissemination, and the means necessary for its restriction, must come into the possession of all classes and conditions, and the medical profession must be the source of this information. The practical application of this knowledge must be directed by the same body of men. The practitioner must recognize the disease in its incipient stages, before the infected individual becomes a possible center for the infection of others, and while the process in himself can be arrested. This will be demanded of every physician in the future, and the people must learn wisdom enough to go to the doctor before it is too late. Sanitoria and hospitals for the education

and treatment of the infected must be provided by the public. This attempt to restrict and eradicate so grave and widespread a disease is the greatest and most beneficent undertaking that man has ever assumed, but it is not a visionary dream. It is a herculean task, but one not beyond the accomplishment of intelligence and effort.

Typhoid fever and other diseases, disseminated so frequently by contaminated water and milk, need not exist, and the heavy tribute that we pay annually to these infections is not complimentary to either our intelligence or our brotherly love, one for the other. The millions that we lose every year in deaths from these diseases would, if properly expended, soon place a safe water supply in every city and village.

It is time for us to stop attempting to control the venereal diseases by moral suasion. A false modesty has prevented us from talking about these distempers, and they should be added to the list of dangerous and communicable diseases, and every person found infected with one of them should be put in custody until he or she is free from the infection.

The time will come, if the world is to progress in intelligence, when every person will undergo a thorough examination at the hand of a skilful physician twice or oftener each year. An official record of each such examination will be made, and no two consecutive examinations will be made by the same physician; and after death an autopsy will be made. Then the careless and unskilled physician will soon find himself without a vocation.

The world has never been in greater need of the enlightened medical man than it is likely to be in the next generation, and the world will demand that he be worthy of the tasks that will fall upon him. No other profession will be able to render greater service to mankind. The incentive to enter the profession is not likely to be great, measured in the coin of the realm, but measured by the good done to the race, there will be none greater. The function of the new, combined medical department of the University of Cincinnati will be to prepare properly its students for worthy service in that profession which has always labored for the uplift of mankind.

A regular and frequent thorough physical examination of

every citizen must be adopted by the people if the race is to be freed from disease. The good that can be accomplished by this is not limited to the infectious diseases. There are many disorders of metabolism which, if detected in time, may be arrested or cured. I will at present refer to only one of these. There are many men and women just passing the prime of life who are developing a glycosuria. At first this is in many instances a pathological condition that is easily controlled by a proper diet. Often it begins with a diminished capacity on the part of the individual to properly dispose of a few special carbohydrates. Which these are should be determined and eliminated from the daily food. In his ignorance the individual continues to eat the food which for him has become a poison. After some months or years the condition grows more grave. The person becomes incapable of properly metabolizing any carbohydrate and finally he can no longer utilize the carbohydrate group in his protein food. Having reached this point, the individual becomes cognizant of the fact that he is not well and he goes to his physician, but the condition is now incurable.

This is given simply as an illustration of the great good that an educated medical profession might render the public by constant supervision of the public health, but in order to bring this about both the profession and the public must be educated along scientific lines. It must be begun among the more intelligent, and its good results becoming apparent, it will be adopted by all. In Michigan University this work has been started. Every medical student must submit to a thorough physical examination each semester, and if any abnormality be detected, the individual must follow rules and regulations if he is to continue in the school. We hope in a few months to extend this to the students of all departments of the university. There is no better place to begin this beneficent work than in our institutions of higher learning. With us no student will be permitted to use the gymnasium until he is found by actual examination to be free from venereal disease, and any one attending the gymnasium may be called upon to submit himself to an examination at any time. Those having other physical defects will be placed under such restrictions as the medical men may impose.

The nation that will profit in the future from the labors and discoveries of the medical profession must help in this cause. It must make large appropriations for scientific research. It must render financial aid to medical education, which has become too costly for the profession itself to provide, and it must not permit of the use of short roads to practice. While the advanced medical educator in this country is doing his best to elevate his profession, pseudo-medicine is filling the lobbies of every state capitol with demands for legal recognition, and too often it happens that our law makers are not wise enough to distinguish between the true and the false. This imposes a heavy duty upon the profession, and that is the one which I have already emphasized—the education of the public. To one who has had occasion to interview our legislators, both national and state, in behalf of public health affairs, the situation often becomes most depressing. The task seems hopeless and one is inclined to forego all effort. Men high in the councils of the nation say without hesitation that this talk about stamping out tuberculosis is only a doctor's fad. As one listens to such talk, as I have, from high sources, his national pride hides its face in shame and he wonders to what destination his country is drifting with such colossal ignorance guiding its course. But, as medical educators, our duty is clear, and it has fallen to us to prepare the next generation of those who will be able to render a far greater service to human progress than the world has yet seen. With the race freed from disease, both inherited and acquired, the better man will be born and will dominate the earth. I am not enough of a prophet to predict anything concerning the nationality of the superman who is to come and possess the earth, but he will not come to a disease-ridden people, for the intellectuality and morality of a nation depend upon its physical health, and the historian of the future will have no difficulty in convincing his readers that we who lived in the early part of the twentieth century were not so wise as we believed ourselves to be, as he points out our high mortality rate from preventable diseases, and shows what feeble efforts were made to prevent them.

COMMENCEMENT EXERCISES.

June 4, 1909.

The thirty-second annual commencement of the University of Cincinnati was held on the morning of Saturday, June 4th, in Music Hall, when one hundred and sixty-seven degrees and thirty-two teachers' diplomas were conferred. The academic procession consisted of the candidates for degrees, the deans and faculties, the Mayor, and the directors of the University. The address to the candidates for degrees was delivered by James Hampton Kirkland, LL. D., D. C. L., Chancellor of Vanderbilt University, and the order of exercises was as follows:

March from Athalia ..... *Mendelssohn*

Invocation. ..... The Reverend Walter D. Cole

Annual Statement ..... President Charles Wm. Dabney

Address to Candidates for Degrees. . James Hampton Kirkland, LL. D., D.C.L.
Chancellor of Vanderbilt University.

Conferring of Degrees and Diplomas. ..... The Deans of the Colleges

Walther's Prize Song ..... *Wagner*

Announcement of Honors and Prizes ..... The Deans of the Colleges

Benediction ..... The Reverend Robert Watson

Hungarian March ..... *Berlioz*

TEN YEARS OF THE UNIVERSITY.

ANNUAL STATEMENT

By PRESIDENT CHARLES WILLIAM DABNEY.

Figures are dull things, but once in ten years we have to use them. This is the census year, and as the people of Cincinnati have just permitted themselves to be counted for the government through a professor of the University, it is only fair that we of the University should stand up and be counted for the information of the people of Cincinnati. In the case of an institution like our University, this is not an easy thing to do, because the chief values we create are not material, but intellectual and spiritual. Colleges, however, like most things in this world, have a material side, and it is the endownments, properties, finances, organization, and attendance upon the University we shall report to you today.

The reports of the University yield the following information with regard to the comparative conditions in 1900 and 1910. The property of the University is separated into two classes: grounds, buildings, and equipments used for instructional purposes; and real estate and funds yielding income for support. It is impossible to estimate the value of the beautiful grounds constituting the sites of the University and the Observatory, but they are certainly worth far in excess of one million dollars.

Leaving these grounds out of consideration, however, the reports show that whereas the University had $375,502 invested in buildings and equipments in 1900, exclusive of the properties of the affiliated colleges, it now has, including the buildings under erection, $1,246,000 so invested. The additions for the decade aggregate thus $871,000.

The total productive endowments, which amounted to $950,000 in 1900, now amount to $1,156,480, exclusive of the endowments of our Law and Medical colleges. The income from

endowments in 1900 was only $29,670; this income had increased last year to $44,102. The income from tuitions, fees, and miscellaneous sources, which amounted in 1900 to $3,800, had increased last year to $43,232. The income from city taxes for current support, including the Observatory, in 1900 was $57,699.12, while last year the University received from this source, including the appropriation of the Board of Education for the Teachers College, a total of $155,707. (By reason of a back tax collection this was $8,000 above the normal.) The total income of the University, including the Observatory, was in 1900 $91,169.12, as against $243,041 last year.

Coming now to the colleges and faculties, we find that the University, which in 1900 consisted of a single College of Arts and Engineering, with loosely affiliated colleges of Medicine, Law, and Dentistry, has now become a well organized University, consisting of a College of Liberal Arts, of Engineering, and of Medicine, a College for Teachers, a Graduate School, and a cooperating College of Law. Eight new departments of instruction have been established during this period, and the total number of courses of study has increased from 150 in 1900 to 405 in 1910.

The administrative and instructional staff of the colleges in Burnet Woods, which was made up of 31 persons in 1900, has now grown to 96, and the attendance of students upon these colleges, which, omitting the Summer School, numbered 554 in 1900, has now increased to 1143, to which number must be added 84 students in law and 199 in medicine, making a total of 1426 regular students in the University in 1910. Some eight hundred other persons attended external courses and lectures regularly last year.

The number of graduates of the colleges in Burnet Woods in 1900 was 48; the total number of graduates of these colleges presented to you today is 107. In addition, there are 29 graduates in law and 41 in medicine, and 32 who receive teachers' diplomas, a total of 209 diplomas awarded.

These figures are not presented in a boasting spirit. These results are not the work of any one board or of any one faculty, much less of any one president; for during the last ten years boards, faculties, and presidents have all changed. These facts

are presented merely to make record of the progress of the institution. If any people should have credit for them, it is the people of Cincinnati as a whole, who have so steadily supported the institution, both morally and financially, during these years.

Our chief object in presenting these statistics, however, is to draw a lesson from them. Looking back over the record just presented, we see that while the attendance, the number of instructors, the buildings, and, in a lesser degree, the support given by the city, have all increased at a good rate, the productive endowments have not increased in anything like the same proportion. To put it in another way, the attendance, the number of courses, the number of instructors, and the total income have increased over 100 per cent, while the productive endowments have increased less than 20 per cent. What the University needs today, then, is more endowments for all its colleges and departments. I know of no more promising opportunity for investment than in the endowment of our Medical College, devoted to the task of training physicians to serve in our hospitals and families, or of our Teachers College, which is educating the women who shall train our children, or of our Engineering College, which is making men to build our industries.

It is impossible at this time to mention all the needs of the University, but there is one line of enlargement which should appeal especially to us. Among the most remarkable and valuable recent developments in our educational system are the continuation schools and the night schools, which offer opportunities for general and technical education to young people who have to work during the day in our commercial and industrial establishments. The night high schools, belonging to this system, now have almost as many students as the day high schools and are rapidly improving the character of their work. The graduates from these schools and the graduates of the day high schools who had to go to work form a class in which we are bound to feel the greatest interest. A recent investigation shows that several hundred of these earnest young men and women are anxiously awaiting the opening of night classes of college grade to prepare them for entrance upon professional, commercial, or technical courses, or to train them for the practical work of life.

These young people do not want superficial or low grade work. Though they will certainly have to take a much longer time than usual to complete such a curriculum, many of them would like to take regular academic courses. To aid them in accomplishing their ambitions would be a high privilege, as well as a great pleasure, to every member of our faculties. A people's college like ours should certainly provide facilities for the education of all classes, and especially for those who have to educate themselves. In my opinion, there is no more important work the University can do, and I regret exceedingly, therefore, that our means are so inadequate at the present time that we can not at once undertake this task. I can think of no better purpose to which a moderate fund can be put than the provision of suitable night courses of instruction for these young working people.

Many things have occurred during the year to encourage us to expect to realize these things. On this occasion and on this platform a year ago it was my privilege to present to the people of Cincinnati the immediate needs of the University for new buildings and equipments. The buildings asked for were an engineering building, a gymnasium, a power plant, and a medical building. Within two months after that time the Council of the City of Cincinnati voted a bond issue of $550,000 for the erection of the first three of these buildings. In view of the necessary delay in the erection of the great new hospital on the hill top, it was thought wise to postpone the appropriation for the medical college building, to be connected with it, which, however, we are assured will be provided later. Council had previously given the University $26,300 for completing the Technical building, so that this made a total of $576,300 given by the city since last Commencement for buildings and equipments at the University—five times as much as the city had given it in all the years before. Counting the $125,000 given during the session for current expenses, this makes a total of $701,300 appropriated by the city during the year for the upbuilding and support of the University.

More significant, however, than the money was the unanimity with which this appropriation was made. As far as known, not a single person lifted a voice against this appropriation. From our beloved fellow-citizen, the President of the United States, who honored us on that occasion by sending us a letter

expressing his hearty approval of the measure, through all the trades and professions, down to the humblest laborer in our midst, our people were cordially united in this movement for the improvement of their University. It has been said, in fact, that no proposal was ever submitted to the people of Cincinnati which met with such universal approval. For this unanimous support of all the people and for the active assistance of the commercial and industrial societies, of the teachers' association, of the members of the press, and of the alumni and friends of the University, as well as for the effective action of the Mayor and Council, we are profoundly grateful. To all these and to hundreds of others who aided us in this splendidly successful movement and can not be named here, we return our sincere thanks.

The University is just finishing an athletic field with running track and complete facilities for baseball, football, and field sports, which will supplement the new gymnasium in a fine manner. For the raising of a large part of the money and for carrying the work to this handsome completion, we are indebted to Dr. Archibald I. Carson, an alumnus and a Director, who has labored for this cause for some fifteen years.

We are happy to announce the donation of funds to establish several additional scholarships. We know of no better way to invest moderate sums than in the education of worthy young people. The Armstrong-Hunter Memorial Fund of some nine hundred dollars was raised under the leadership of Mrs. Daniel H. Sowers, Mrs. Harris Hancock, and Miss Helen Hinkle to establish a scholarship in the University in memory of Miss Sarah J. Armstrong and Miss Clara Hunter, teachers in Cincinnati for twenty-five years. This fund was contributed by eighty pupils of the Armstrong School, residing in this and neighboring cities. It is to be used in establishing a scholarship in the department of English Literature in the Graduate School for a woman graduate of the University. This is truly an appropriate and beautiful memorial of two honored and beloved teachers, who did much to form the character of many of our noblest women.

Mr. Robert William Hochstetter, an alumnus of the University of Cincinnati, has given to the University the sum of one thousand dollars to establish a scholarship in Chemistry

in memory of his brother, Henry Hochstetter, also a student of the University. All of our alumni can not give money, but all can give service of some kind, and this gift from a rising young alumnus is encouraging as the suggestion of what we may expect when our alumni grow older and wealthier.

Through Mr. William Harvey Anderson, a member of the Board of Directors, the University has received a pledge of one hundred and fifty dollars a year for four years from a generous citizen, who does not wish his name to be known, to establish two scholarships in the College of Liberal Arts for students who have attended the University for at least one year and need assistance. The gentleman who so modestly hides behind Mr. Anderson's genial personality requests that these scholarships be known as the Optimist Club scholarships. Whoever he is, he is evidently a helpful as well as a cheerful person. Will Mr. Anderson kindly convey to him our heartfelt acknowledgments and tell him that acts like this help to make optimists of us all?

The University has also received a number of valuable gifts for the equipment of its several departments. The Library, Museum, and the laboratories have received donations too numerous to mention here. A large and valuable gift to the Library was that of the Schloss collection of German literature, purchased for the purpose and donated by Mr. and Mrs. O. J. Renner, both enthusiastic workers for the University, the lady becoming an alumna today. Among the most notable donations to the Museum was a large paleontological and conchological collection made by the late U. P. James from the rocks and fresh waters of this region. This collection, which comprises hundreds of valuable specimens, was given to the University by Mr. Davis L. James and his sisters, Miss Catherine M. James, Miss Ellen W. James, and Miss Annie A. James. A collection of some five hundred specimens of shells, minerals, and fossils from coal measures, made by the late Miss Ida Murdoch, has been presented to the University by her sister, Mrs. R. N. Hollingshead. It is interesting for an institution like ours, which is educating so many women, to receive a gift from a woman of a scientific collection made by a woman.

It is a matter of regret that out of the large amount of geological and archaeological material collected in this vicinity so little has been retained in Cincinnati. Since the University now has a prospect of a fireproof building for a museum, it is earnestly hoped that owners of such material will give it to us instead of sending it off to other places. If this is done, we may expect that scientific students will find opportunity to study Cincinnati archaeology and geology in the University of Cincinnati instead of having to go to Cambridge or to Chicago.

Some Needs of the University

Among the buildings most needed by the University at the present time are the following:

A Chemical Laboratory building must be erected soon to accommodate the growing classes of the Colleges of Engineering and Medicine, as well as of the College of Liberal Arts. Some $200,000 will be required to build and equip for this purpose.

One of the greatest needs of the present moment is a Medical Laboratory building. The union of the old colleges and the building of a great new City Hospital gives Cincinnati the opportunity to become one of the greatest medical centers in the country. The Hospital and the University will have most of the plant needed and only a college laboratory building is required to complete this equipment. The city has put several million dollars into the University and as much more in the Hospital and some $300,000 additional invested in a Medical College building would accomplish this.

There is also a fine opportunity to create in Cincinnati a great Natural History Museum. A number of collections are waiting to be brought together in a suitable fireproof building, which should be located in Burnet Woods near the University and the new High School. The sum of $150,000 would erect the first section of such a museum.

The University is in great need of dormitories. The development of the Engineering, Medical, and Law Colleges would be greatly promoted by the provision of living accommodations for students. College dormitories are not a gift to students, but yield good revenues to the institution. The new plans provide a site for dormitories and a college commons and $75,000

to $100,000 would be sufficient to erect the first dormitory, which would undoubtedly be immediately filled.

If it is desired to erect a more monumental structure, we would mention the need at the University of a great auditorium or assembly hall. The University has no hall large enough to contain all its students. It needs such a hall, which might well be made the Westminster of Cincinnati,—a place for assembling the memorials of our great men and women. The University grounds offer a noble site for such a building.

It has been suggested also that there should be a bell or flag tower on the University heights. This could be made highly ornamental, as well as useful, and a moderate sum would doubtless be sufficient for its erection.

The sum of $100,000 is the amount necessary to found a full professorship in any of the colleges. The donor has the privilege of attaching an appropriate name to the professorship.

Twenty thousand dollars endows an instructorship in a department and $10,000 a fellowship, the income being paid to the instructor or fellow, who devotes his time to University work and research. Three thousand dollars endows a free scholarship for the benefit of a student in any one of the colleges.

The President of the University will be glad to give any information pertaining to these subjects.

NOTE.—On the day following Commencement Mr. Julius Fleischmann informed the President that he would like to have the privilege of renewing his subscription of one thousand dollars a year for thirteen scholarships in the University during 1910-11 to students from accredited schools outside of Cincinnati who are distinguished for scholarship and are unable to meet the tuition. Mr. Fleischmann gave this sum for a similar purpose last year, and so brought thirteen excellent young people into the University. It is interesting to note that out of the six honorary scholarships awarded by the faculty to freshmen attaining the highest record this year three were given to Fleischmann scholars, while three other Fleischmann scholars were close behind the first six. Seven out of the thirteen attained distinguished scholarship, and all give promise of excellent success. Mr. Fleischmann's modesty undoubtedly prevented the announcement of his renewal of these scholarships until after Commencement, but his example is so good that we cannot let him escape from this report.

THE SPIRIT OF THE UNIVERSITY.

Address to the Candidates for Degrees

By CHANCELLOR KIRKLAND, LL. D., D. C. L.

There are many standpoints from which universities may be studied and there are many varied definitions of a university. There are also many arguments by which their usefulness is established and by which their value to the world may be demonstrated. Perhaps there has been no single human interest that has been so constantly advocated as that of higher education. For hundreds of years universities have been the bright points of history. They have been fostered by kings, popes, parliaments, and individual philanthropists. As wide as human thought they stretch their sway. They have spoken in a world language and have held a scepter of universal dominion. Japan, seeking to create a new empire, founded the university of Tokio. Lord Kitchener, filled with the task of establishing civilization in the wilderness of Soudan, builds an institution of learning at Khartum. Germany, seeking to rehabilitate herself after her wars with Napoleon, establishes the great University of Berlin.

It is not easy to decide as to the most important function of a university. The training of individual students is, of course, one of the greatest of their tasks. Without this work universities would be feebly supported and rarely defended. But this part of their work is so often commented on that we may be excused for passing it by in this discussion. The purpose of this paper is rather to direct attention to universities as part of the machinery of civilization, promoters of the world's progress, discoverers of new kingdoms of truth.

There has always been in the world a love for truth. This exists in spite of danger and death. Men have sought for truth not because it was popular or profitable, but because it was the truth. This spirit of truth is the university spirit, a spirit that has enabled these institutions to change and direct the current

of the world's thought. Without this spirit an institution may be a college or professional school, but not a university. It is true that this spirit has not been confined to educational institutions. It burnt in many a breast before modern universities were founded. It makes the university investigator of today a brother of Socrates, of Plato, and of Christ.

Among the nations of antiquity, the Greeks furnish a striking illustration of the principle we are considering. Their greatest distinction was not in their political achievement, but in this, that they were the first to apply their minds fearlessly to the search for truth. They had a thirst for knowledge that amounted almost to a passion. From the beginning the Greeks busied themselves with the profoundest questions. Standing at the very threshold of scientific discovery, they asked themselves the hardest of questions. The value of their work was not always in its results, but in its spirit. Socrates, dying, declares that the purpose of his life has been to search out the reason of things. Their great teachers were their philosophers and their poets.

As Greece was the first great illustration of the university spirit, so she has been the mediator by which that spirit spread among mankind. Alexander carried her civilization to the eastern world. In the west, Rome, mistress of nations, was captured by her subtle spiritual power. Christianity drew on the storehouse of Greek philosophy. "We are all Greeks," said Shelley, and every period of intellectual upheaval turns to ancient Greece for inspiration.

But let us turn our attention to another field and try the truth of our contentions by other tests. The pre-eminence of universities in scientific matters is often disputed. Credit is here given to the practical man who invents a new machine, who saves labor. Edison is the popular idol of today, and he can hardly be pointed out as a brilliant illustration of university training and university ideals. While I would not lessen the honor that belongs to the practical scientist, my contention is that this achievement would be impossible without the university spirit. The greatest credit belongs to the man who establishes the theoretical, who settles fundamental principles, who ascertains the final truth.

Of all sciences, astronomy is perhaps the oldest. Most of its questions have seemed to be useless. Even today the stargazer is typical of the unpractical man, yet it has been by devotion to these useless tasks that we have been able accurately to regulate our lives, to make definite appointments months ahead, to track a course on the waves of the ocean, to foretell the rising of the sun and the swelling of the tides. The movements of the world's commerce depend on the accuracy of logarithms and the perfection of the infinitesimal calculus. The mathematician lays the foundation for every science. Back of every great cathedral lie countless efforts in the study of materials, in the construction of arches, vaults, and domes, the strength of beams and columns, the walls of buttresses.

Further illustration of these truths may be found in the development of modern chemistry. The applications of chemistry to life are endless, and it is one of the most useful of sciences. The chemist has his office in every factory, in every mine, on every farm. These achievements have been largely brought about through the efficient work done in university laboratories. Alchemy was not the real parent of chemistry. The spirit of the alchemist was self-seeking; his work was not for truth but for gold. The new chemistry was born when men seriously tried to answer the question as to what takes place when a piece of wood is burned to ashes. And yet, while modern chemistry has sought chiefly the truth, it has been the means of finding gold in richest abundance.

Let us note one further phase of this subject, even though time is not left for its full discussion. The spirit of investigation exercises a controlling influence on the mind and heart of man aside from the results attained. The search for truth has always been one of the most valuable of human disciplines. It has elevated, enlarged, and dignified human life. The periods of progress have been those when this spirit guided the thoughts of men; the peroids of decline, when the right of research was denied. Such periods of decline are necessarily periods of darkness and ignorance. There is something in original research that gives to the soul of man a boundless sweep. Sir Isaac Newton was overwhelmed with emotion as he neared the end of the calculations by which he proved that the moon was held

in its orbit by gravitation. It was with exultation of spirit that Halley completed his calculations of the orbits of twenty-four comets and called the world to witness that in fifty-four years one already seen in the past would again burst into view. It is the glory of universities that they have had a large share in this work of discovery, that through their influence the thoughts of men are widened with the process of the suns.

In conclusion, let us briefly emphasize the duty of society in establishing and maintaining great universities. Educational work is not sufficiently provided by supplying schools and colleges. To secure the highest results provision must be made for investigation in every department. Great laboratories are needed and the best of scientific equipment. Great libraries are a necessity, and professors must be adequately supported in every work. Above all, academic freedom must be guarded. Teachers must be given the highest liberty. No hand of authority may be laid on their shoulders. University professors must be free both from political and ecclesiastical control. There can be no compulsion here. If we are to have great universities in America we must rise above all narrow sectional and personal issues and glory in the truth alone and in that life that is guided by the truth

CONFERRING OF DEGREES.

COLLEGE OF LIBERAL ARTS

Dean More, in behalf of the Faculty of the College of Liberal Arts, recommended the following candidates, and the President conferred upon them the degree of Bachelor of Arts:

Bachelor of Arts

Maurice B. Abrahams
Marguerite Susan Allgaier
Antoinette Frances Bahr
Edna Fannie Baum
Alice Logan Bell
Archibald Bernstein
Israel Bettan
Emma Lucy Braun
Stanley Farrar Brewster
Audley Harold Brown
Janet Beggs Brown
Helen Ormsby Burns
Marietta Belle Carstens
Lydia Nugent Collins
Mary Geneva Conway
Mary Julia Detraz
Gertrude Mary Dowling
Ernest Speers du Bray
Verna Elsinger
Emma Katherine Franzmeier
Gertrude Abbett Frederick
Andrew C. Gallagher
Mary Anna Gerdsen
William von der Halben
Arthur Marc Harris
Ellen Brown Harrison
Viola Heise
Lesley Henshaw
Edith S. Hoffheimer
Clarence Lee Hoffman
Winnifred May Humphreys
Schachne Isaacs
Marcella Edith Johnston
Stephen Winchester Jones
Mamie C. Keller
Ralph A. Kreimer
Ida Blanche Lanz
Hattie L. Leimann
Frances Tabb Levi
Frederick D. Lotter
Mary Agnes Lynch
Vera Louise McVay
Bessie Macbrair
Louis Leopold Mann
Marie Elizabeth Oehler
Franziska Opes
Pearl C. Oskamp
Carrie May Perin
Jacob B. Pollak
Imogene Poole
Christine Porter
Lucille Price
Adele Louise Raschig
Mrs. O. J. Renner
Arthur Blaine Robertson
Electa A. Rule
Hazel Elizabeth Ryan
Elizabeth Anita Smith
Ruth Alms Sorgel
Maude Carlyn Stephens
Alfrida Anna Strubbe
Elsie S. Tangeman
Irene Tedesche
Maude Vawter
Edith Wagoner
Mary Dunn Whitfield
Ernest William Wilfert

COLLEGE FOR TEACHERS

Dean Burris, in behalf of the Faculty of the College for Teachers, recommended the following candidates for the degree of Bachelor of Arts in Education, which was conferred:

BACHELOR OF ARTS IN EDUCATION

Mollie Vivian Heim
Retta Jacobs
Anna Williamson

Dean Burris also recommended the following candidates for the Teacher's Diploma in their respective subjects, which was conferred:

IN ELEMENTARY EDUCATION

Marguerite Susan Allgaier
Antoinette Frances Bahr
Marietta Belle Carstens
Mary Julia Detraz
Emma Katherine Franzmeier
Gertrude Abbett Frederick
Mary Anna Gerdsen
Winnifred May Humphrey
Schachne Isaacs
Marcella Edith Johnston
Mamie C. Keller
Hattie L. Leimann
Frances Tabb Levi
Frederick D. Lotter
Mary Agnes Lynch
Nanabel McNelly (A. B., 1907)
Marie Elizabeth Oehler
Ethel Louise Outcalt (A. B., 1909)
Carrie May Perin
Harriet Belle Reid (A. B., 1909)
Hazel Elizabeth Ryan
Maude Carlyn Stephens
Alfrida Anna Strubbe
Elsie S. Tangeman
Maude Vawter

IN ART

Jessie Hart Dodd
Ellen F. Guthrie
Laura Halliday
Almira Jewett (A. B., 1908)
Hilda B. Pfaffinger
Bertha Rosenstein
Doretta Huston Schueler

COLLEGE OF ENGINEERING

Dean Schneider, in behalf of the Faculty of the College of Engineering, recommended the following candidates for the several respective degrees, which were conferred:

CIVIL ENGINEER

David Goldblatt
Frederick William Hyndman
Charles Edmund Kilgour
Amor Edward Kistner
John G. Reinke
Hoyes Reiter

MECHANICAL ENGINEER

Charles B. Jahnke

CHEMICAL ENGINEER

Earl Bess
Wilson Jewett Buvinger
Charles Holzwarth
Edward Herman Kinker
Henry Frederick Koenig
Julian Maas
Gustave Schuessler

ELECTRICAL ENGINEER

Charles S. Andrew
Ralph Blaine Kersey

COLLEGE OF LAW

Dean Rogers, in behalf of the College of Law, recommended the following candidates for the degree of Bachelor of Laws, which was conferred:

BACHELOR OF LAWS

Henry E. Beebe, Jr.
Howard Landis Bevis, A. B.
Bernard Cox Bowen, A. B.
Leonard Jacob Crawford, Jr., A.B.
Michael J. Dosch, A. B.
John V. Dye
Robert Campbell Dye
Edwin W. Franks
Thomas M. Gregory
William H. Harrison, Ph. B.
Edward L. Hayes
Elmer R. Heisel
Nicholas John Hoban, Jr., A. M.
Nathan Tovio Isaacs, A. M.
Harry Joseph Koehler, Jr.
Wallace C. Lee
Carl B. Lehmann, Ph. B.
Edgar R. Moeser, A. B.
Theodore Thomas Nunn, Jr.
Loren Earl Orr
Frank A. Ralston, A. B.
Edwin Porter Ransom
Harry Lester Risinger
Thomas Kirby Schmuck, A. B.
William Hughes Shepard, B. S.
Charles F. Tatgenhorst, Jr.
B. L. Waddle
Charles Edgar Weber
Eldon James Wright

Dean Rogers made mention of the fact that Mr. Orin Clark Clement had completed his course in law, but on account of illness had been prevented from taking his final examinations, and recommended that upon their completion the degree of Bachelor of Laws be conferred upon Mr. Clement.

COLLEGE OF MEDICINE

Professor Smith, in behalf of the faculty of the Ohio-Miami Medical College, recommended the following candidates for the degree of Doctor of Medicine, which was conferred:

DOCTOR OF MEDICINE

John Hoadly Berry
Oscar Edwin Bloom
Earl Ernest Brock
Cosper Burton
Marinus Willett Conway
Charles Kenneth Ervin
Joseph R. Esterman
John Montfort Finney, A. B.
John Daniel Fouts
Rizgallah Gaballah
Joseph Getelson
William Joseph Graf, A. B.
Oliver Harrison Griffith
John Fremont Hamsher, A. B.
George Hart Hansell, A. B.
Fred H. Harris
Earl Eugene Heath
Lewis Wade Heizer
Joseph Nathaniel Hunter
Charley Curtis Jones
Charles P. Kennedy
Clifford C. Kennedy
George Wesley King
David Adam Korb
Fletcher Langdon
Howard Cochran Lisle, A. B.
John Charlesworth Littell
Ernest Chester McCulloch, A. B.
William H. Nickels
Herman Feighery Pohlmeyer
Henry Michie Schneider
Louis Howard Schriver
Clyde Earl Shinkle, A. B.
Francis Glenn Smith
Charles August Stammel
Howard Leigh Stitt
Charles Henry Stoffregen
George Bernard Topmoeller
Eric Renesch Twachtman, A. B.
George Platt Tyler, Jr.
Stanley Hull Van Pelt

GRADUATE SCHOOL

Dean Harry, in behalf of the faculty of the Graduate School, recommended the following candidates for the degree of Master of Arts, which was conferred:

MASTER OF ARTS

Roy Beckett
B. L., Georgetown, 1907
Mary Julia Bentley
A. B., 1898
Whittier Burnet
Ph. B., Ohio State, 1903
Elizabeth Cabell Carrington
A. B., 1909
Edward Nicholas Clopper
B. S., Bethany, 1897
Siegfried Geismar
A. B., 1908
Edith Kreimer
A. B., 1909
Jessie Little
A. B., 1897
Elise Reis Loebman
A. B., 1909
Helen Gibbons Lotspeich
Leipzig, 1900-02
Henrietta Marie Mackzum
A. B., 1909
Harriet Wilson Lewis Parker
B. L., Bucknell, 1894
Jonette Revill
A. B., Georgetown, 1909
Mary Emma Rowell
A. B., 1907
Joseph Maccabee Rubin
A. B., Wisconsin, 1908
August Ruecker
B. D., Hartford Theolog. Sem., 1907
Louis Selbert
A. B., 1909
Fred Shaw
Ph. B., Ohio, 1906
Grace Florence Spiegel
A. B., 1908

DOCTOR OF PHILOSOPHY.

After enumerating the scholastic qualifications of the following candidates, Dean Harry presented Elliott Smith, on the recommendation of the professor of Astronomy, and Nathan Tovio Isaacs, on the recommendation of the professor of Economics, for the degree of Doctor of Philosophy, which was conferred by the President.

Mr. Smith received the degree of Bachelor of Arts from the University of Minnesota in 1903, after having been elected to membership in the Phi Beta Kappa Society. He held the position of Assistant in Astronomy in the University of Minnesota during 1902-03, was Meridian Circle Assistant in Lick Observatory during 1903-05, Lick Fellow in the University of California, 1905-06, and assistant in the Cincinnati Observatory since 1907. During his academic career Mr. Smith has contributed to various astronomical journals. The subject of his dissertation for the doctorate is "Personal Equation and its Variation." His major work has been in the department of Astronomy, his minors in Mathematics and Physics.

Mr. Isaacs entered the University of Cincinnati in 1903, receiving a Thoms Honorary Scholarship in 1904 and a McMicken Honorary Scholarship in 1905 and 1906 respectively. In 1907 he took the degree of Bachelor of Arts, after having been admitted to membership in the Phi Beta Kappa Society; and in 1908 the degree of Master of Arts.

In the year 1907-08 Mr. Isaacs was appointed special collaborator of the Carnegie Institution of Washington in the department of Political and Social Science, to prepare a monograph on the mining laws of Ohio, Indiana, and Illinois, under the supervision of Professor Hicks, of the University of Cincinnati, and Professor W. Farnam, of Yale; and the results of Mr. Isaacs' research is embodied in his dissertation for the doctorate. His major work has been in Economics, with Political Science and Finance as minors.

In addition to the above achievements, Mr. Isaacs has taken the full course in the College of Law, winning the Wald Prize in Contracts in 1908, and receiving at this Commencement the degree of Bachelor of Laws.

ANNOUNCEMENTS OF HONORS AND PRIZES.

COLLEGE OF LIBERAL ARTS

The Comegys Scholarship of fifty dollars given to a meritorious undergraduate, was awarded to Mildred Sherbrooke Hamilton; the five McMicken Honorary Scholarships, for the best scholastic standing in their class, to the following seniors: Emma Lisetta Doerr, Hilda Francesca Pirman, Ruth Clara Renner, Florence Santen, and Pincus Beck; the twelve Thoms Honorary Scholarships, for excellence in standing, to six juniors: Cornelia Pearce Atkins, Alice Magdalene Thoennes, Sidney Tedesche, Reginald Charles McGrane, Essie Viola Arey, Lucie Elizabeth Beeler; and to six sophomores: Leonora Neuffer, Helen Abigail Stanley, Pauline Juliane Haffner, Artie Lawrence Hartshorn, Sara Millie Wartcki, Emma Edith Kirschner. The first Jones Prize in Oratory, of the value of forty dollars, open to seniors, was won by Louis Leopold Mann, and the second Jones Prize of twenty dollars by Ralph A. Kreimer. The Edward Miles Brown Prize for Excellence in English, of the value of fifty dollars, was awarded to Mary Dunn Whitfield. The two Optimist Club Scholarships just established for four years, covering a year's tuition in the University for students living outside the city, was awarded to Edward Joseph Lorenz and Katherine Herbst Goodman, both of Covington, Ky.

For a list of seniors elected to membership in the Phi Beta Kappa Society, see page 42.

COLLEGE OF ENGINEERING

The Henry Hochstetter Prize in Chemistry, of the value of forty dollars, was awarded to Charles Holzwarth, for his graduating thesis on "The Manufacture of Oxalic Acid from Sawdust·

COLLEGE OF LAW

The Faculty Scholarship of the value of one hundred dollars for the best record during the second year was awarded to

Leonard Freiberg; the Richard H. Wald Prize, a certificate of stock in the Cincinnati Law Library Association, of the value of one hundred dollars, to the student of the first year class making the best record in the subject of contracts, to Carl Basler; the Faculty Prize of seventy-five dollars for the highest average of grades for the three years' work, to Edgar R. Moeser, and the second prize of fifty dollars to Nathan Tovio Isaacs; the John R. Sayler prizes of fifty dollars each for the best essay on Property, to Marston Allen, on Bills and Notes, to Edgar R. Moeser, and on Evidence, to Marston Allen and Charles A. Sawyer jointly.

Dean Rogers announced the establishment of two new prizes: the Oscar A. Berman Prize of fifty dollars to the student of the third-year class showing the greatest excellence in the law of private corporations; and the Thomas A. Logan Scholarship, endowed by a fund, given by Commander George Wood Logan, U. S. N., in honor of his father, of the class of '51, for the tuition of students selected under the regulations of the Law faculty.

COLLEGE OF MEDICINE

The successful competitors for places as resident physicians in hospitals were as follows:

CINCINNATI HOSPITAL

Charley Curtis Jones
Charles P. Kennedy
Eric Renesch Twachtman
Charles August Stammel
Marinus Willett Conway
Clyde Earl Shinkle
Joseph Getelson
William Joseph Graf
William H. Nickels
John W. Daehler
Fletcher Langdon
Earl Ernest Brock

GOOD SAMARITAN HOSPITAL

George Bernard Topmoeller
Howard Leigh Stitt
Charles Kenneth Ervin
Fred. H. Harris

JEWISH HOSPITAL

Cosper Burton
John Fremont Hamsher
Charles Henry Stoffregen
Henry Michie Schneider

CHRIST HOSPITAL

John Charlesworth Littell
Louis Wade Heizer
Louis Howard Schriver
Joseph R. Esterman

St. Mary's Hospital

Joseph Nathaniel Hunter — David Adam Korb

German Deaconess Hospital

Francis Glenn Smith — George Platt Tyler, Jr.

National Jewish Hospital, Denver, Colo.

Ernest Chester McCulloch

Soldiers and Sailors' Home, Sandusky, Ohio

John Hoadly Berry

City Hospital, Springfield, Ohio

Oscar Edwin Bloom — Earl Eugene Heath

GRADUATE SCHOOL.

The Alliance Française Traveling Scholarship, of the value of three hundred dollars, for the greatest proficiency in French, was won in competitive examination by Carrie May Perin, Bachelor of Arts in the University of Cincinnati, 1910. The holder of the Scholarship is required to attend the summer course of instruction given by the Alliance Française in Paris.

The following fellowships for the year 1910-11 were awarded: the Colonial Dames Fellowship in Ohio Valley History, yielding a stipend of five hundred dollars, to H. Dora Stecker, and the Hanna Fellowship in Physics, of a similar value, to Edward G. Rieman, A. B., University of Cincinnati, 1908 (reappointment).

The D. A. R. Fellowship in American History, yielding an income of one hundred dollars per year, will be awarded at the opening of the academic year 1910-11.

PHI BETA KAPPA DAY.

At the annual meeting of the Delta Chapter of Ohio of Phi Beta Kappa, which was held at the Grand Hotel on Thursday, May 26th, at 5:30 p. m., the following members of the class of 1910 of the College of Liberal Arts were inducted into the local chapter: Marguerite Susan Allgaier, Archibald Bernstein, Emma Lucy Braun, Janet Beggs Brown, Mary Julia Detraz, Schachne Isaacs, Martha Miller Renner, Carrie May Perin, Elizabeth Anita Smith, Edith Wagoner, Mary Dunn Whitfield. The initiatory ceremonies were followed by a banquet at which Mr. Bryant Venable presided. The members and guests responded as follows: the Honorable Guy Ward Mallon—"A Little More Culture; the Honorable William Dudley Foulke—"The Gifts of the Greeks"; Dr. Philip Van Ness Myers—"The Future in the Present"; Senator Joseph Benson Foraker—"A Play Extempore"; Miss Elise Reis Loebman—"A Spur to Action."

The chapter elected the following officers for the ensuing year: president, Walter A. De Camp, A. B., Yale, '90; vice-presidents, Wm. Worthington, A. B., Harvard, '67, Emma Louise Parry, Cincinnati, B. L., '87, Isaac Joslin Cox, A. B., Dartmouth, '96; secretary, Lelia Amanda Garvin, B. L., Cincinnati, '98; treasurer, Arthur James Kinsella, A. B., Cincinnati, '05.

ALUMNAL REUNIONS (Colleges in Burnet Woods).

THE ALUMNAE LUNCHEON

On Saturday, June 4th, the Association of Alumnae entertained the women of the graduating class with an informal luncheon at the University. Miss Lucy M. Lambdin, the president, spoke of the work of the Association since its formation into a separate alumnal branch in November, 1909, and Miss McVea, the Dean of Women of the University, voiced the hope that the organization, through its membership, might become an important factor in strengthening and upbuilding the University. A telegram of congratulation was sent by the Association to Miss Elizabeth Merrill, who returns next year to the department of English as Instructor, on her achievement in taking the degree of Doctor of Philosophy at Yale this June.

The following officers were elected for the coming year: president, Lucy M. Lambdin, '94; vice-president, Helen Ratterman, '03; secretary-treasurer, Viola Pfaff, '08; executive committee, Luella Latta, '06, Frieda Lotze, '06.

THE ALUMNI BANQUET

The alumni of the colleges in Burnet Woods gave a banquet to the men of the graduating class at the University Club, on the evening of Saturday, June 4th. Mr. George Harper, President of the Association, presided. At this affair speeches were made by Deans More and Harry, for the University, and Dr. David Philipson, for the alumni. A resolution was unanimously passed at the meeting to the effect that the improved Athletic Field in Burnet Woods be called the Carson Field, in recognition of the untiring services of Dr. Archibald I. Carson, an alumnus and director, in the interest of providing athletic facilities for the students of the University. A copy of this resolution was

sent to the University Board, to be acted upon at their next meeting.

The following officers were elected for the ensuing year: president, Alexander Hill, Jr., '06; vice-president, Malcolm McAvoy, '97; secretary-treasurer, Joseph R. Jones, '06; executive committee, Harry Wieman, '05, Walter W. Hyman, '01.

THE COLLEGE OF LAW:

The Reunion of the Class of '95.

Members of the class of '95 of the Cincinnati Law School, held a reunion and banquet at the Zoo on Saturday, June 11th, at which some thirty-five attended. Professor Robert C. Pugh was the guest of the class, as the present representative of the Law School. Mr. John C. Rogers acted as toastmaster, and each one present responded briefly with a speech assigned in Latin terms.

The committee elected for the following year is as follows: John C. Rogers, Chairman, William J. Klein, Sanford Brown, Charles M. Leslie, and Henry Hauck.

THE MEDICAL REUNION

An initial reunion and banquet of the alumni of the Ohio-Miami Medical College was held on Friday, June 3d, at the Business Men's Club, and was attended by three hundred physicians. Dr. A. H. Freiberg presided, and the following gentlemen responded: President Charles Wm. Dabney—"Deelighted"; Dr. J. Chase Sexton—"Hookworms vs. Bookworms"; Dr. S. E. Allen—"Halley's Comet and the Medical Profession"; Howard Saxby—"X-Rays"; Dr. Louis Schwab, Mayor—"School Days." Dr. Ben McClelland also spoke informally, urging the active support of the new medical college.

The following officers were elected: president, Frank H. Lamb; vice-presidents, Dudley Webb, L. C. Read, Willard Phares, J. Chase Sexton; secretary, Charles Maertz; treasurer, John H. Caldwell; board of directors, W. D. Haines, J. L. Tuechter, H. J. Cook.

SENIOR CLASS FUNCTIONS.

THE BACCALAUREATE SERMON

On the morning of Sunday, May 29th, the Baccalaureate Sermon was given by the Reverend Robert Watson, at the Church of the Covenant, before the class of 1910, who, together with the members of the various faculties, attended in academic costume. Dr. Watson chose as his text, "The Law of Growth."

THE SENIOR BANQUET

The members of the graduating classes of the colleges in Burnet Woods held their class banquet on the evening of Monday, May 30th, at the Business Men's Club. Dean Joseph E. Harry, of the Graduate School, presided as toastmaster, and the members of the class responded as follows: Clarence Lee Hoffmann—"Nineteen Ten"; Mary Julia Detraz—"The Future"; Frederick D. Lotter—"Everybody Loves a Fat Man"; Maude Carlyn Stephens—"Life"; Ralph A. Kreimer—"Cupid."

THE SENIOR CLASS PLAY

On the evening of Wednesday, June 1st, the seniors presented as their annual class play the old English comedy, "Royster Doyster," by Nicholas Udall. The play was given out of doors, in the University Quadrangle, under the personal direction of Mr. Benjamin Charlton Van Wye, Instructor in Public

Speaking and English in the University, and was witnessed by a large audience.

PERSONS OF THE PLAY:

Speaker of the Prologue ..... MAUDE CARLYN STEPHENS
Ralph Royster Doyster, *a vainglorious blockhead and would-be gallant* ..... RALPH A. KREIMER
Mathew Merygreeke, *a needy humorist* ..... FREDERICK C. LOTTER
Gawin Goodluck, *London merchant betrothed to Dame Custance* ..... AUDLEY H. BROWN
Tristam Trusty, *Friend of Goodluck* ..... EDWARD H. KINKER
Sim Suresby, *Servant of Goodluck* ..... BYRON H. WAYNE
Tom Trupenie, *Servant of Dame Custance* ..... BESSIE MACBRAIR
Dobinet Doughty, *Servant of Ralph* ..... VIOLA HEISE
Harpax ..... GERTRUDE FREDERICK
Musicians ..... IMOGENE POOLE, CLARENCE HOFFMANN
Scrivener ..... STEPHEN JONES
Christian Custance, *Widow affianced to Gawin* ..... RUTH ALMS SORGEL
Madge Mumblecrust, *Nurse to Dame Custance* ..... CARRIE MAY PERIN
Tibet Talkapace, Annot Alyface, *Maids of Dame Custance* .... FRANCES TABB LEVI, JANET BEGGS BROWN

THE SENIOR GIRLS' LUNCHEON

On Thursday afternoon, June 2d, the senior girls gave their annual luncheon at the Zoo, at which Miss Emily Watts McVea, Dean of Women, Miss Alice Cynthia King, of the Department of Education, and Miss Lelia A. Garvin, Registrar of the University, were guests of honor. Miss Marguerite Susan Allgaier, the president of the Senior Girls' Club, presided. Toasts were given as follows: "Our Girls," Mary Julia Detraz; "Our Boys," Lesley Henshaw; "Our Profs," Elsie S. Tangeman; "Looking Backward," Maude Vawter; "Looking Forward," Gertrude Mary Dowling.

CLASS DAY EXERCISES

The Class Day exercises, which were held on the morning of Friday, June 3d, were begun by the procession of the seniors to the University campus, with Clarence Lee Hoffman, the presi-

dent of the class, presiding. The class poem was delivered by Carrie Mary Perin, the class oration by Louis Leopold Mann, the class history by Viola Heise, the class prophecy by Ellen B. Harrison, and the class will by Frederick D. Lotter. The ivy oration was given by Ralph A. Kreimer for the seniors and Ralph M. Fox for the juniors At these ceremonies the customary burning of their note-books by the happy members of the graduating class took place. The exercises were followed by the class picnic, which was held in the adjoining woods, after which the Faculty-Senior baseball game was played on the Athletic Field. On the following afternoon the baseball game between the alumni and senior teams was played.

THE FACULTY-SENIOR LAW LUNCHEON

The annual luncheon given by the members of the faculty of the Law School to its graduates was held this year on Thursday day, June 2d, at the Country Club. Members of the faculty were present, and the event was enlivened by speeches from the various members of the graduating class.

University of Cincinnati Record

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ANNOUNCEMENT OF THE

COOPERATIVE COURSES

COLLEGE OF ENGINEERING

1910-1911

PUBLISHED BY THE UNIVERSITY OF CINCINNATI,
AT THE UNIVERSITY PRESS,
BURNET WOODS, CINCINNATI, OHIO.

Entered as second-class matter May 24, 1909, at the Post-office at Cincinnati, Ohio, under the Act of July 16, 1894

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Series I. Vol. VI. No. 6.
MARCH, 1910.

University of Cincinnati Record

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THE UNIVERSITY OF CINCINNATI

COMPRISES THE FOLLOWING DEPARTMENTS:

I.
THE GRADUATE SCHOOL.

II.
THE McMICKEN COLLEGE OF LIBERAL ARTS.

III.
THE COLLEGE FOR TEACHERS.

IV.
THE COLLEGE OF ENGINEERING.
(Mechanical, Electrical, Civil, and Chemical Engineering.)

V.
THE COLLEGE OF LAW.
(The Cincinnati Law School.)

VI.
THE OHIO-MIAMI MEDICAL COLLEGE.
(The Ohio and the Miami Medical Colleges united.)

VII.
THE DEPARTMENT OF CLINICAL MEDICINE.
(The Clinical and Pathological School of the Cincinnati Hospital, Affiliated.)

For the special announcements of the various departments and further information, address:

THE SECRETARY OF THE UNIVERSITY,
CINCINNATI, OHIO.

OFFICERS OF ADMINISTRATION OF THE COLLEGE OF ENGINEERING.

President of the University:
CHARLES WILLIAM DABNEY, Ph. D., LL. D.
Room No. 10, McMicken Hall.

Dean of the College of Engineering:
HERMAN SCHNEIDER, B. S.
Engineering Building.

Director of the Observatory:
JERMAIN G. PORTER, Ph. D.
The Observatory, Mt. Lookout.

Director of Physical Education:
ALFRED BRODBECK,
McMicken Hall.

Secretary of the University:
DANIEL LAURENCE, B. S.
Room No. 6, McMicken Hall.

Librarian of the University:
CHARLES ALBERT READ, A. B.
Van Wormer Library Building.

Registrar:
LELIA AMANDA GARVIN, B. L.
Room No. 7, McMicken Hall.

COLLEGE OF ENGINEERING.

CALENDAR, 1910-1911.

Sept. 19, Monday-Sept. 24, Saturday:
Entrance examinations

September 22, Thursday:
First day of registration.

September 24, Saturday:
Last day of registration.

September 26, Monday:
First semester begins.

Nov. 24, Thursday-Nov. 26, Saturday:
Thanksgiving recess.

December 22, Thursday:
Christmas vacation begins.

January 2, Monday:
Work resumed.

Jan. 23, Monday-Jan. 28, Saturday:
First semester examinations:
Entrance examinations.

January 28, Saturday:
First semester ends.

January 30, Monday:
Registration day for second semester.

January 31, Tuesday:
Second semester begins.

GENERAL INFORMATION.

FOUNDATION.

On his death, in 1858, Charles McMicken gave to the city of Cincinnati by will almost the whole of his estate, valued at about $1,000,000, for the purpose of establishing and maintaining "two colleges for the education of white boys and girls."

He had "long cherished the desire to found an institution where white boys and girls might be taught not only a knowledge of their duties to their Creator and their fellow men, but also receive the benefit of a sound, thorough and practical English education, and such as might fit them for the active duties of life, as well as instruction in the higher branches of knowledge, except denominational theology, to the extent that the same are now or may hereafter be taught in any of the secular colleges or universities of the highest grade in the country."

Nearly half of the property devised by Mr. McMicken was situated in the state of Louisiana. This was entirely lost, in 1860, by a decision of the Supreme Court of that state, annulling that part of the devise. The court refused to recognize the validity of bequests of real estate to institutions controlled by non-resident trustees upon perpetual trusts. The remainder of the property, lying in Cincinnati and its vicinity, did not yield a sufficient income to warrant the establishment of the proposed colleges. For ten years, therefore, the revenue derived from the estate was applied to its improvement.

In 1869 the trustees provided for a School of Design, which they maintained, with aid from Joseph Longworth, until 1884, when they transferred it to the Cincinnati Museum Association. Meanwhile an attempt was made to unite the various educational trusts in Cincinnati. To this end, in 1870, the General Assembly of Ohio passed an act "to aid and promote education," under which, almost a year later, the University of Cincinnati was established. Bonds were soon issued by the city to provide funds for the erection of a suitable building, which was ready for use in the fall of 1875. But students were received in 1873, and instruction was given temporarily by the teachers of Woodward High School. In 1874 the Academic Department, now known as the McMicken College of Liberal Arts, was organized by the appointment of three professors and two instructors, who met classes during that year in a school building on Franklin Street.

The effort to unite other trust funds with those given by Charles McMicken having failed, the income remained long inadequate to the needs of such an institution as he had intended to found. At length the city undertook to support the University

in part by public taxation, the tax for this purpose being limited at first to three-tenths of one mill. In the course of time additional funds for the maintenance of the institution were provided by individual citizens, the most important being the bequest of property, valued at $130,000, by Matthew Thoms in 1890, the gift of $100,000 by David Sinton in 1899, and the recent bequest of Mary P. and Eliza O. Ropes, of Salem, Massachusetts, amounting to $100,000, for the endowment of a chair of Comparative Literature, as a memorial to their father, Nathaniel Ropes, for many years a citizen of Cincinnati.

New departments were also added. In 1872 the Cincinnati Astronomical Society (founded in 1842) transferred its property on Mt. Adams to the city, which agreed, as a condition of the gift, to sustain, in connection with the University, on a new site provided by John Kilgour, an Observatory,* to be built with funds given by him. In 1896 the Medical College of Ohio (founded in 1819) became the College of Medicine of the University, though still retaining its original title conjointly with its new one. In 1908 an invitation was extended to the Miami Medical College to become a department of the University. In accordance with this invitation the Miami Medical College and the Medical College of Ohio (the College of Medicine of the University) have recently been united into a single medical department, known as "The Ohio-Miami Medical College of the University of Cincinnati." In 1896 a Law Department was established, and six professors of law were appointed, who gave instruction at first in rooms on Fourth Street. But, in 1897, by a contract with the Law School of the Cincinnati College (founded in 1833), a union was effected. The College of Law of the University was to be known as the Cincinnati Law School, and the degree of Bachelor of Laws was to be conferred by the concurrent action of the Board of Directors of the University and the Trustees of the Cincinnati College.

Out of a professorship of Civil Engineering in the College of Liberal Arts has developed the College of Engineering. It was organized under that name in 1900, and became a distinct department in 1904.

Since its organization, in 1887, the Clinical and Pathological School of the Cincinnati Hospital has been affiliated with the University, being designated as the Medical Department, until 1896, and afterwards as the Department of Clinical Medicine.

The College for Teachers was organized in 1905, in cooperation with the Board of Education of the City of Cincinnati. In 1906 the Graduate School was separated from the McMicken College of Liberal Arts and a distinct organization with a dean at its head

*For this purpose the city levies annually a special tax of one-twentieth of one mill

effected. In the same year the General Assembly of Ohio authorized the levying of an increased municipal tax for the University —five-tenths of a mill, instead of three-tenths as before.

BUILDINGS AND SITE.

From 1875 to 1895 the Academic Department occupied the building erected on the grounds of the McMicken homestead, as required by the will of the founder. This site proving altogether unsatisfactory, application was made to the courts for permission to remove to a more suitable location in Burnet Woods Park. The desired permission having been granted by the court of last resort in March, 1893, steps were immediately taken for the construction of a main building, called McMicken Hall, which was completed in two years. This building stands on high ground at the southern end of the park, forty-three acres having been set apart as a site for the University. During 1895-96 the north wing, known as Hanna Hall, was built for the departments of Chemistry and Engineering, with funds amounting to about $70,000, provided by Henry Hanna. The south wing, called Cunningham Hall, was built in 1898-99 by Briggs S. Cunningham, at a cost of $60,000. This wing is occupied by the departments of Physics and Biology. The Van Wormer Library, costing about $60,000, the gift of Asa Van Wormer, was built during 1898-1900. The Technical School building, erected in 1901, has been completely remodeled as the Engineering Annex. The Observatory, built in 1873 with $10,000 given by John Kilgour, stands on Mt. Lookout, at a distance of several miles from the other University buildings. A smaller structure, the O. M. Mitchel Building, was added in 1904 to house the old telescope. Since 1896 the building on the McMicken homestead site has been used by the College of Medicine. A Dispensary, erected in that year, is situated on the lower part of the grounds. The College of Law, on Ninth Street, occupies a new building, which was completed in 1902 at a cost of $65,000. In August, 1909, the Council of the City of Cincinnati authorized the issue of bonds in the amount of $550,000 for the erection of the following additional buildings in Burnet Woods, and their equipment: an Engineering College building, a heat, light and power plant, and a gymnasium building; and steps are now being taken toward their immediate construction.

BENEFACTORS OF THE UNIVERSITY.

Besides those whose names have already been mentioned, the following persons have contributed to the endowment or to the equipment of the University: William A. Procter, Rev. Samuel J. Browne, William J. Odell, Julius Dexter, Frank J. Jones, Judge Moses F. Wilson, Eugene F. Bliss, Dr. James T. Whittaker, Mrs.

William E. Merrill, Theodore A. Bruehl, Andrew Hickenlooper, Christian Moerlein, Laura Seasongood, Lewis Seasongood, S. Lilienthal, Mrs. Nannie Fechheimer, A. G. Wetherby, Charles F. Windisch, C. T. Webber, Rev. P. Robertson, the Lane & Bodley Company, James E. Mooney, John Kilgour, Charles Kilgour, C. H. Krippendorf, Julius Fleischmann, Lucien Wulsin, Samuel Pogue, Professor Edward Miles Brown, Dr. Nathaniel Pendleton Dandridge, Mrs. Howard Breen, Mr. Robert Hochstetter, the alumni of the University, and others.

ENDOWMENT FUND ASSOCIATION.

The Endowment Fund Association of the University of Cincinnati was incorporated on April 21, 1905, by a number of prominent citizens of the municipality. The purpose of the corporation, as stated in its Code of Regulations, is "to secure property, including money, or the income from the same, for the use of the University of Cincinnati, and for that purpose to solicit, collect, accept, hold, manage, invest, or pay over such property, money, or income, whether such property, money, or income arises by way of gift, devise, or purchase, for the benefit of said University." Its affairs are managed by a Board of Trustees consisting of nine members. The officers of the Endowment Fund Association are:

Rufus B. Smith, President.
Jacob G. Schmidlapp, Vice-President.
Charles F. Windisch, Treasurer.
Howard C. Hollister, Secretary.

THE UNIVERSITY LIBRARY.

The Van Wormer Library Building is of stone, fire-proof throughout, and is built in accordance with the most approved modern plans of library construction. The rooms have been furnished by the University with heavy tables and desks of quartered oak.

The University Library, in this building, contains about 55,000 volumes and 8,800 pamphlets. In the Reference Room about 2,000 volumes are arranged on open shelves, to which the students have free access. The Periodical Room contains the current numbers of 300 periodicals. The Library is provided with a card catalogue of its own books, and also with card catalogues of the books in the Public Library of Cincinnati and in the Library of the Historical and Philosophical Society of Ohio. It is open every week day from 8 a. m. to 5 p. m.

The Library contains some valuable special collections:

The Robert Clarke Library, comprising 6,761 volumes, was given by William A. Procter. This collection is especially rich in Americana, and contains some rare first editions.

The Enoch T. Carson Shakespeare Library, 1,420 volumes, was also given by William A. Procter.

The Bruehl Library, of about 2,000 volumes, contains many rare and valuable works on the history, archæology, and ethnology of Mexico and Central America. This collection was made by Dr. Gustav Bruehl, and presented to the Library by Mr. Theodore A. Bruehl.

The Wilson Library, consisting mainly of works of literature and criticism, in English, French, and Italian. 810 volumes, was given by Judge Moses F. Wilson.

The Merrill Library of engineering works, 876 volumes, 478 pamphlets, and 185 maps, charts and photo-lithographs, was given by Mrs. William E. Merrill.

The Whittaker Medical Library, the bequest of Dr. James T. Whittaker to the Medical College of Ohio, comprises 1,547 volumes and 538 pamphlets.

The Thoms Library, miscellaneous works, was part of the bequest of the late Matthew Thoms.

The Laura Seasongood Alcove contains books purchased annually from the proceeds of an endowment provided in 1894 by the will of the late Laura Seasongood.

The Brown Philological Library, containing the English philological library of the late Professor Edward Miles Brown and presented to the University by Mrs. Edward Miles Brown, consists of 318 bound volumes, 51 unbound volumes, and 83 pamphlets.

The Charlotte Hillebrand Memorial Library consists of French and German books, to be purchased from the proceeds of an endowment recently established in memory of the late Charlotte Hillebrand.

The Library of the American Association for the Advancement of Science has been placed under the charge of the University of Cincinnati, by the terms of an agreement with the Association, entered into on September 14, 1895. This collection consists at present of 5,600 volumes, for the most part periodical publications of foreign scientific societies.

The Historical and Philosophical Society of Ohio has deposited its valuable collections of books, pamphlets, and other articles in the Van Wormer Library of the University. This library comprises over 23,000 volumes and 68,000 pamphlets, pertaining

chiefly to the history of the Ohio Valley, and contains valuable collections of original letters and other manuscripts.

The total number of books in the Van Wormer Library Building is about 84,000 volumes and 77,000 pamphlets.

To these collections must be added the libraries of departments of the University, situated in other parts of the city. These are:

The Library of the Observatory	3,500 volumes
The Library of the College of Law	11,000 volumes
The Library of the College of Medicine	3,000 volumes
The Library of the Cincinnati Hospital	18,309 volumes
Total	35,809 volumes

The libraries of the University, then, taken altogether, but excluding those of the Historical and Philosophical Society of Ohio and the American Association for the Advancement of Science, contain 90,809 volumes and 8,800 pamphlets.

The Public Library, of 438,767 volumes; the Mercantile Library, containing about 76,000 books; and the Lloyd Library and Museum, consisting chiefly of scientific works, as well as those of the Lane Theological Seminary, the Hebrew Union College, the Art Museum, and the College of Music, are open to University students.

UNIVERSITY PUBLICATIONS.

The University publishes the following periodicals at the University Press:

The University of Cincinnati Record,

Published monthly, from October to June inclusive. Its numbers include

The Annual Catalogue.
The Announcement of the Graduate School.
The Announcement of the McMicken College of Liberal Arts.
The Announcement of the College for Teachers.
The Announcement of the College of Engineering.
The Announcement of the College of Law.
The Announcement of the College of Medicine.
The President's Annual Report,

and other pamphlets of special information. Any number of the *Record* will be sent free of charge upon application to the Secretary of the University.

The University Studies,

Issued bi-monthly, is a scholarly publication, containing the results of research by members of the faculty or by other persons connected with the University of Cincinnati.

A price list of the literary and scientific publications of the University may be had by addressing the Office of the Press.

SCHOLARSHIPS.

In the year 1906 the Lodge and Shipley Machine Tool Company donated two loan scholarships of the amount of one hundred dollars each to the students in the Cooperative Course in Engineering for the payment of their University fees.

STUDENT ORGANIZATIONS AND PUBLICATIONS.

The students of the University have established a large number of organizations which are in flourishing condition. The Speakers' Club, an oratorical and debating society, is composed entirely of young men. The Debating Association of the University, including both young men and young women, arranges each year two or more debates with other institutions. The young women of the College of Liberal Arts have a Literary Society of their own, with its alumnal chapter, while the French Club and the German Club are open to men and women alike. There are two Glee Clubs, one for men, the other for women. Other student organizations are the Chemists' Club and the Chemical Journal Club, devoted to the interests of chemistry; the Economics Club; the Graduate Club, which is an organization of the students of the Graduate School, devoted to the encouragement of higher learning and research; the English Club, made up of advanced students in English; the Education Club, composed of the graduates of the College for Teachers; the Meliorist Club, organized for the investigation of social problems; and the History Club, recently formed for the discussion of historical questions. The Blue Hydra is a permanent organization devoted to the study of biology. Its membership is restricted, and new members are chosen each year from the best students of that subject in the Freshman class. The Academic Club is made up of the men of the College of Liberal Arts. The Engineers' Club includes the upper classmen of the College of Engineering, while the Student Branch of the American Institute of Electrical Engineering is composed of the advanced students in electrical engineering. In addition, there are tribunals in the

several colleges for student self-government. A branch of the College Equal Suffrage League has recently been established in the University. Besides these organizations, there is the University Club, composed of representatives from the student clubs, the fraternities, and the four classes, the object of which is the promotion of the general welfare of the University.

The University annual, *The Cincinnatian*, is edited and published by the members of the Junior class. The *University Weekly News*, the official student paper, is issued every week during the University year by a student board of editors.

ATHLETICS.

Athletics are so controlled in the University that they play an important part in the college life of the student without seriously conflicting with the interest in class-room work.

Three hours' work each week in physical education is prescribed for the members of the Freshman class, and two hours for those of the Sophomore class, except students giving part of their time to professional studies. With them participation is voluntary. A physical examination of each student is made at the beginning and at the close of the session. This gymnasium work is designed to secure three main objects: health and organic vigor, bodily control and efficiency, erect carriage and symmetrical development. A large part of the work is done out of doors during good weather, and such games as football, base-ball, basketball, tennis and track athletics are a part of the students' training. Lessons in boxing, wrestling, and fencing are also given to students interested in this form of exercise.

All athletics and gymnastics are in charge of the Director of Physical Education and his assistants.

THE ATHLETIC FIELD.

A much-needed Athletic Field has recently been provided, and its equipment is nearing completion. When finished it will be one of the best college athletic fields in the country. One end has a base-ball diamond, the other a foot-ball gridiron. The track is one-fourth mile, built of cinder, with deep foundation. A straight-away one hundred and twenty yards, sixteen feet wide, extends in front of the new grand stand. The proximity of this field to the gymnasium makes it a particularly valuable addition to the athletic equipment of the University. Its location between three hill-tops, which form a natural amphitheater, affords opportunity for thousands of people to view the games.

COLLEGE OF ENGINEERING.

FACULTY AND INSTRUCTORS OF THE COLLEGE OF ENGINEERING.

CHARLES WILLIAM DABNEY, Ph. D., LL. D., President of the University.

JERMAIN GILDERSLEEVE PORTER, Ph. D., Director of the Observatory and Professor of Astronomy.

FREDERICK CHARLES HICKS, Ph. D., Sinton Professor of Economics and Civics.

HARRIS HANCOCK, Ph. D., Dr. Sc., Professor of Mathematics.

MAX POLL, Ph. D., Professor of the Germanic Languages.

MERRICK WHITCOMB, Ph. D., Professor of History.

LOUIS TRENCHARD MORE, Ph. D., Professor of Physics.

MICHAEL FREDERICK GUYER, Ph. D., Professor of Zoology.

HERMAN SCHNEIDER, B. S., William Thoms Professor of Civil Engineering and Dean of the College of Engineering.

STEPHEN ELMER SLOCUM, Ph. D., Professor of Applied Mathematics.

JOHN THEODORE FAIG, M. E., Professor of Mechanical Engineering.

NEVIN MELANCTHON FENNEMAN, Ph. D., Professor of Geology and Geography.

PHILLIP OGDEN, Ph. D,. Professor of Romance Languages.

LAUDER WILLIAM JONES, Ph. D., Professor of Chemistry.

ROBERT CLARKSON BROOKS, Ph. D., Professor of Political Science.

FRANK WADLEIGH CHANDLER, Ph. D., Professor of English.

SAMUEL NEWTON TAYLOR, Ph. D., Professor of Electrical Engineering.

GEORGE MOREY MILLER, A. M., Associate Professor of English.

HARRIS MILLER BENEDICT, A. M., Associate Professor of Biology.

JAMES EDMUND IVES, Ph. D., Associate Professor of Physics.

CLAUDE M. LOTSPEICH, Ph. D., Assistant Professor of German.

HARRY SHIPLEY FRY, Ph. D., Associate Professor of Chemistry.

GEORGE WALLACE UMPHREY, Ph. D., Assistant Professor of Romance Languages.

ALEXANDER LEWIS JENKINS, M. E., Assistant Professor of Mechanical Engineering.

FRED EUGENE AYER, C. E., Assistant Professor of Civil Engineering.

JOHN JERMAIN PORTER, A. B., Assistant Professor of Metallurgy.

CHARLES NAPOLEON MOORE, Ph. D., Assistant Professor of Mathematics.

SAMUEL JAMES McINTOSH ALLEN, Ph. D., Assistant Professor of Physics.

CURTIS C. MYERS, M. M. E.,, Assistant Professor in Charge of Coordination.

MAX HENRY GOETTSCH, Ph. D., Assistant Professor of Industrial Chemistry.

ALFRED BRODBECK, Director of Physical Education.

BENJAMIN CARLTON VAN WYE, A. M., Assistant Professor in Public Speaking and English.

————————, Instructor in Chemistry.

JOSEPH EDWARD KINDLE, A. M., Instructor in Mathematics.

CLARENCE RAYMOND WYLIE, M. E. Instructor in Electrical Engineering.

ROBERT GARFIELD BROWN, M. E., Instructor in Mechanical Engineering.

JAMES FRANCIS DILWORTH, A. M., Instructor in English History.

HOWARD ALEXANDER DORSEY, M. E., Instructor in Mechanical Engineering.

TAYLOR SCOTT CARTER, Ph. D., Instructor in Physics.

JOSEPH EUGENE ROOT, B. S., Instructor in Civil Engineering.

J. ERNEST CARMAN, B. S. Instructor in Geology.

CLYDE W. PARK, A. M., Instructor in English.

JAMES ROLF TRIMBLE, A. B., Instructor in Mathmetics.

FRED. WILBERT UPSON, Ph. D., Instructor in Chemistry.

CHARLES HECKER, Ch. E., Assistant in Chemistry.

EDWARD G. RIEMAN, A, B., Hanna Fellow in Physics.

———— Assistant in Chemistry.

————————, Lecture Assistant in Chemistry.

OTTO CHARLES VON SCHLICHTEN, Student Assistant in Chemistry.

EDWARD J. LORENZ, Student Assistant in Physics.

HENRY H. KRANZ, Student Assistant in Civil Engineering.

REQUIREMENTS FOR ADMISSION TO THE McMICKEN COLLEGE OF LIBERAL ARTS.

Candidates for admission as undergraduates must be at least sixteen years of age. They must give evidence of having completed satisfactorily an amount of preparatory study represented by sixteen units, a unit being understood to mean one of the subjects in the following table pursued for one full year of five recitation periods each week. Of these sixteen units every candidate

for admission to the McMicken College of Engineering must present the following:

English—Three units, in which there can be no "condition."

Mathematics.—One unit in Algebra and one unit in Plane Geometry, and one-half unit in Solid Geometry.

History—One unit.

Language—Three units, from the five languages: Latin, Greek, French, German, Spanish; two units must be in the same language.

In addition to these fixed requirements, the candidate must offer a number of units selected from the list of subjects below, sufficient, with the units specified above, to amount to a total of sixteen. The number of units that may be offered in any subject is shown in the following table:

	Number of Units Accepted for Admission.			
	Minimum.			Maximum.
English	3	required	or	4
Latin	1	Three units required, two of which must be in one language.	or 2 or 3 or	4
Greek	1		or	2 or 3
French	1		or 2 or 3 or	4
German	1		or 2 or 3 or	4
Spanish	1		or	2
General History	1	One unit required.		1
Ancient	½		or	1
Mediaeval and Modern	1			1
English	½		or	1
American	½		or	1
American and Civics	1			1
Algebra	1	required	or	1½ or 2
Geometry, Plane	1	required	or	1
Geometry, Solid	½		or	½
Trigonometry	½		or	1
Civics	½			½
Physics	1			1
Chemistry	1			1
*Zoology	1			1
*Botany	1			1
Physical Geography	½		or	1
Astronomy	½			½
Geology	½			½
Drawing	1			2
Manual Training	1			2

ENTRANCE CONDITIONS.

All students must satisfy the entrance requirements in Mathematics. Students who are deficient in not more than two units of the sixteen required for admission, excepting those

*One-half unit will be allowed in Zoology and one-half unit in Botany when these two subjects are presented together as one unit in the same year.

required in Mathematics, may be admitted conditionally to the College of Engineering. All such entrance conditions will be removed in case the student passes in all of his Freshman work; otherwise, he will be required to pass entrance examinations to satisfy said conditions before he will be allowed to register for his second year of work at the University.

ENTRANCE EXAMINATIONS.

Examinations for admission will be held on September 19, 20, 21, 22, 23, 24, 1910. In 1911 they will be held on January 23, 24, 25, 26, 27, 28, and on May 22, 23, 24, 25, 26, 27, according to the schedule below.

Students who desire to take these examinations must obtain permission beforehand from the Dean of the College of Engineering. All applications for permission to take the entrance examinations should be made at least two days before the first day of the examination period. Some of the examinations may be taken in the spring and the remainder in the fall, if so desired. Students who apply for entrance examinations at times other than the days specified will be charged a fee of five dollars.

A candidate for admission to the University, coming from one of the accredited schools, who is not a graduate of such school, will not be admitted to the entrance examinations within one year after leaving such preparatory school, unless recommended for examination by the principal of the school from which he comes.

Students intending to take these entrance examinations should consult the statement of the entrance requirements, as printed on a preceding page, and arrange to take their examinations

(*a*) in the fixed requirements, and

(*b*) in enough additional subjects to make a total of sixteen units.

The work covered by each unit or group of units in the various subjects may be found on the following pages. Specimen entrance examination questions will be furnished free of charge on application to the Director of School Affiliation.

SCHEDULE OF ENTRANCE EXAMINATIONS.

September 19, 1910; January 23 and May 22, 1911:

8:30-11:00	English	3 units	
11:00-12:00	English	1 unit	additional
1:00- 3:00	Physics	1 unit	
3:00- 4:00	Solid Geometry	½ unit	
4:00- 5:00	Physical Geometry	½ or 1 unit	

September 20, 1910; January 24 and May 23, 1911:

8:30-10:30	Latin	1 or 2 units	
10:30-12:00	Latin	1 or 2 units	additional

1:00- 3:00....Chemistry .....1 unit
3:00- 4:00....Astronomy .....½ unit
4:00- 5:00....Civics .....½ unit

September 21, 1910; January 25 and May 24, 1911:

8:30-10:30....French .....1 or 2 units
10:30-12:00....French .....1 or 2 units additional
1:00- 2:30....Plane Geometry.....1 unit
2:30- 4:00....Algebra .....1 unit
4:00- 5:00..Advanced Algebra ..½ or 1 unit additional

September 22, 1910; January 26 and May 25, 1911:

8:30- 9:30....Ancient History..½ or 1 unit
9:30-10:30....American History.½ or 1 unit
10:30-12:00...General or Mediaeval and Modern History..... 1 unit
1:00- 2:00....English History...½ or 1 unit
2:00- 3:00..American History and Civics ..... 1 unit
3:00- 5:00....Spanish .....2 units

September 23, 1910; January 27 and May 26, 1911:

8:30-10:30....German .....1 or 2 units
10:30-12:00....German .....1 or 2 units additional
1:00- 3:00....Zoology .....½ or 1 unit
3:00- 5:00....Botany .....½ or 1 unit

September 24, 1910; January 28 and May 27, 1911:

8:30-10:30....Greek .....1 or 2 units
10:30-11:30....Greek .....1 unit additional
11:30-12:00....Drawing .....1 unit
1:00- 2:00....Trigonometry.....½ or 1 unit
2:00- 4:00....Geology .....½ unit
4:00- 5:00....Manual Training .....1 unit

DEFINITION OF UNITS.

Detailed statements showing the exact amount of work required for each unit or group of units in the various subjects are here presented:

ENGLISH COMPOSITION AND LITERATURE.

I. Three units. The preparation should include the following subjects:

Composition.—There should be practice in writing at regular and frequent intervals throughout all the years of the preparatory course. Essays and short themes should be carefully corrected by the teacher and often rewritten by the student. Subjects should be drawn both from the observation and experience of the student and from literature. Special attention should be given to the proper structure of sentences and paragraphs, and the method of planning or outlining an essay.

Grammar.—It is expected that the applicant will be familiar with the essentials of English grammar, and will be able to explain the construction of sentences that occur in the classics he has read.

English Classics.—The following books are recommended for reading and study, 1910-1911. For reading: Addison's DeCoverley Papers in *The Spectator;* Coleridge's *Ancient Mariner;* George Eliot's *Silas Marner;* Goldsmith's *Vicar of Wakefield;* Lowell's *Vision of Sir Launfal;* Scott's *Ivanhoe;* Scott's *Lady of the Lake;* Shakspere's *Merchant of Venice;* Tennyson's *Gareth and Lynette, Lancelot and Elaine,* and *The Passing of Arthur.* For study and practice: Burke's *Speech on Conciliation with America,* or as alternative to this Washington's *Farewell Address* and Webster's *First Bunker Hill Oration;* Carlyle's *Essay on Burns* or Macaulay's *Life of Johnson;* Milton's *Lycidas. Comus, L'Allegro,* and *Il Penseroso;* Shakspere's *Macbeth.*

Equivalents for these books will be accepted, but in general it is expected that the applicant's preparation will have included the reading of the books in this list. All the books should be read with care and appreciation, but particular attention should be given, with regard to form, structure, and style, to those intended for study and practice. In addition, the student should have some definite knowledge of the lives of the authors read and of the history of their times.

The committing to memory of fine passages from the English Classics is a practice much to be commended and should regularly form part of the exercises of the preparatory course.

II. Four units. For four units in English composition and literature the preparation should extend throughout the four years of the high school course. Besides the subjects mentioned above, the applicant should have studied the outlines of English literary history. His study should be based upon one of the recent manuals of English literature, the study of the text being accompanied by as much reading as possible of representative authors.

The applicant for admission by examination must be prepared to answer questions on the fundamental principles of composition and English grammar, on the books studied and on the lives of their authors; to write a short descriptive, narrative, expository, or argumentative essay on a subject suggested by his own experience or observation, and an essay of not less than three hundred words on a subject drawn from the books read. The spelling, punctuation, and use of capitals in these essays must be correct, the words chosen with discrimination, and the sentences and paragraphs clear and well ordered.

The applicant for four units must be prepared to answer, in addition, questions in the history of English literature.

LATIN.

I. **First unit.**—The student should have digested some Beginner's Book like that of Coy, or Collar and Daniel.

II. **Second unit.**—Caesar's *Gallic War*, Books I-IV, or an equivalent amount selected from the remaining portions of that work. It is expected that in the first year's preparation the student has mastered the declensions, comparisons, and verbal inflections, knows the leading rules of syntax, and possesses some vocabulary. Along with Caesar there should be some exercise in Latin Composition, a wider and deeper acquaintance with grammatical principles of the language, and a good vocabulary. Sallust's *Catiline* or an equivalent amount of the *Jugurtha* may be substituted for two books of Caesar. It is furthermore suggested that the teacher, if possible, vary the Caesar lessons by selections from Books V-VII.

III. **Third unit.**—Cicero, *In Catilinam*, I-IV, and *Pro Archia*, with more practice in composition. It is also preferred that the student should study an additional oration or short treatise, e. g., *de Amicitia*, or selections from the *Letters*. He should also begin the practice of writing continuous prose.

IV. **Fourth unit.**—Vergil's *Aeneid*, I-VI, with scanning and prosody. An equivalent amount of verse from *Aeneid*, VII-XII, or Ovid will be accepted in place of *Aeneid*, III and V. If circumstances permit, it is very advantageous to let Ovid precede Vergil. It is preferable that the composition done during this year be based on Cicero.

GREEK.

I. **First unit.**—White's *Beginner's Book* or an equivalent. Grammar and composition work.

II. **Second unit.**—Xenophon's *Anabasis*, Books I and II. Grammar and composition work.

III. **Third unit.**—In addition to the work outlined in paragraphs I and II, the following:

Xenophon, *Anabasis*, Books III and IV.
Homer, *Iliad*, Books I-III.
Composition.
Grammar: Babbitt, Goodell, Goodwin, or Hadley-Allen.

FRENCH.

I. **One unit:**

(*a*) The translation at sight of very simple French prose.

(*b*) The translation into French of easy sentences to test the candidate's familiarity with elementary grammar.

(*c*) One full year of five periods a week is necessary to meet the requirements in one unit. The first one hundred and fifty pages in Fraser and Squair's *French Grammer* may be taken as a standard of the amount of grammar which should be covered during that period. Due attention should be given to pronunciation and dictation.

II. Two units:

(*a*) The translation at sight of ordinary nineteenth century prose. The passages set for translation must be rendered into clear and idiomatic English.

(*b*) A test of the candidate's knowledge of the regular verbs; the auxiliaries être, avoir; the more frequent irregular verbs, such as aller, envoyer, venir, devoir, pouvoir, vouloir, savoir, voir, dire, lire, écrire, faire, croire, boire, mettre, prendre, and the typical verbs partir, conduire, craindre, paraître.

(*c*) The translation into French of simple sentences to test the candidate's familiarity with elementary grammar.

Two full years of five periods a week are necessary to meet the requirements in two units. Edgren's *French Grammar*, complete, may be taken as a standard of the amount of grammar which should be covered during that period. Not less than three hundred duodecimo pages should be read from the works of at least three different authors. Suitable texts for these two units are: *Le Siège de Berlin* and *La Dernière Classe*, Daudet; *La Mère Sauvage*, Maupassant; *Le Tour de la France*, Bruno; *Le Petit Chose*, Daudet; *Sans Famille*, Malot; *La Tache du Petit Pierre*, Mairet; *La Poudre aux Yeux*, Labiche et Martin; *Le Voyage de M. Perrichon*, Labiche et Martin; *La Cigale chez les Fourmis*, Legouvé et Labiche.

Due attention should be given to pronunciation, conversation, and dictation.

III. Three units. A continuation for one year of work just outlined. The candidate should be able to read at sight ordinary French prose or simple poetry, to translate into French easy English prose, to answer questions involving a more thorough knowledge of the essentials of French syntax, especially the ordinary uses of tenses and modes. It is expected that the candidate for three units will have worked through a grammar of moderate completeness and will have read five or six hundred pages of French during three years of five periods a week. Suitable texts for these three units are: the plays of Labiche, Scribe, etc.; *Gil Blas*, Lesage; *Le Tour de la France*, Bruno; *La Belle Nivernaise*, Daudet; *Les Fourberies de Scapin*, *Le Médicin Malgré Lui*, Molière; Voltaire's historical writings; *Le Cid*, Corneille; Coppée's poems, etc.

IV. Four units.

(*a*) The translation at sight of standard French. The passages set for translation must be rendered into clear and idiomatic English.

(*b*) A test of the candidate's knowledge of the irregular verbs and the essentials of French syntax, especially the uses of tenses, modes, prepositions, and conjunctions.

(*c*) The translation into French of a connected passage of English prose.

(*d*) The writing of a simple theme in French on a given topic.

Four full years in a good preparatory school are necessary to meet the requirements for four units. Not less than six hundred pages should be read from the works of at least five different authors. Suitable texts besides those given above, are *Colomba*, Mérimée; *La Mare au Diable*, Sand; *Pêcheur d' Islande*, Loti; *La Canne de Jonc*, Vigny; *Horace*, Corneille; *L' Avare* and *Le Bourgeois Gentilhomme*, Molière; *Esther*, Racine; *Le Gendre de M. Poirier*, Sandeau; *Récits des Temps Mérovingiens*, Thierry; *L' Expédition de Bonaparte en Egypte*, Thiers.

The student should have constant practice in giving paraphrases and abstracts. He should be trained to write French from dictation in order to enable him to understand lectures delivered in that language.

GERMAN.

I. One unit.

(*a*) The translation at sight of very simple German prose.

(*b*) The translation into German of easy sentences, to test the candidate's familiarity with elementary grammar.

The candidate ought to have read not less than one hundred pages of easy German, such as is found in Howell's or Harris's *German Reader*.

II. Two units.

(*a*) The translation at sight of simple German prose.

(*b*) The translation into German of easy connected prose, to test the candidate's familiarity with elementary grammar. The requirement in elementary grammar includes the conjugation of the weak and strong verbs; the declination of articles, adjectives, pronouns, and such nouns as are readily classified; the prepositions; the simpler uses of the modal auxiliaries; the elements of syntax, especially the rules governing the order of words.

The candidate ought to have read not less than two hundred pages of easy German, such as is found in Hewett's or Harris's *German Reader*.

In general, to obtain two units in German, two years' work in a good preparatory school is required.

III. Three units.

(*a*) The translation at sight of ordinary German.

(*b*) The translation into German of a connected passage of English prose, to test the candidate's familiarity with grammar.

The candidate ought to have read not less than four hundred pages of classical and contemporary prose and verse. It is recommended that the reading be selected from such works as Schiller's *Wilhelm Tell;* Lessing's *Minna von Barnhelm;* Goethe's *Hermann und Dorothea;* Wildenbruch's *Das edle Blut;* Fontane's *Vor dem Sturm;* Moser's *Kopnickerstrasse.*

Generally speaking, three years' work in a good preparatory school will be necessary in order to meet the requirements for three units.

IV. Four units.

(*a*) The translation at sight of ordinary German.

(*b*) The translation into German of a connected passage of English prose, to test the candidate's familiarity with grammar. The candidate will be expected to show a thorough knowledge of accidence, the principal uses of prepositions and conjunctions, and the essentials of syntax, especially the uses of the modal auxiliaries and of the subjunctive and infinitive modes.

The candidate ought to have read not less than six hundred pages of classical and contemporary prose and verse. It is recommended that the reading be selected from such works as Schiller's *Jungfrau von Orleans;* Goethe's *Iphigenie;* Freytag's *Die Journalisten, Soll und Haben, Bilder aus der deutschen Vergangenheit;* Riehl's *Culturgeschichtliche Novellen.*

In general, to obtain four units in German, four years' work in a good preparatory school is required.

SPANISH.

I. One unit:

(*a*) The translation at sight of simple Spanish prose.

(*b*) The essentials of grammar, including the conjugations of the regular and the most frequently used irregular verbs. The translation into Spanish of short sentences, intended to test the candidate's knowledge of the essential points in grammar. Conversation and dictation.

In general, one year's work in a preparatory school, or its equivalent, is necessary to meet the requirements for one unit. The candidate will be expected to have worked through a short Spanish grammar, or the principal parts of a more complete one,

and to have read at least one hundred pages of simple Spanish. Suitable texts for one unit are: *Spanish Reader*, Bronsby; *Victoria y Otros Cuentos*, Asensi; *Gil Blas*, Padre Isla; *El Pájaro Verde*, Valera; *O Locura o Santidád*, Echegaray; *Zaraguëta*, Carrión y Vital Aza; *El Clavo*, Alarcón; etc.

II. Two units:

In general, two years' work in a preparatory school, or its equivalent, will be needed to meet the requirements for two units. In addition to the work outlined in Paragraph I, the candidate will be expected to have worked through an elementary composition book and to have read from two to three hundred pages of modern Spanish. Suitable texts for the second unit are: *El Capitán Veneno*, Alarcón; *El Sí de las Niñas*, Moratín; *Doña Perfecta*, Galdós; *Guzmán el Bueno*, Gil y Zárate; *Cuentos Alegres*, Taboada; *Legends, Tales, and Poems*, Bécquer; *El Haz de Leña*, Nuñez de Arce; *José*, Valdés; etc.

MATHEMATICS.

I. Algebra. One unit. Definitions. Integral numbers. Rational numbers. Irrational numbers. The six fundamental operations of Algebra. Algebraic expressions. Rational Algebraic expressions. Application of the four fundamental operations to Rational Algebraic expressions. The use of parentheses. Especial emphasis given to working within the parentheses. Factoring, determination of highest common factor and lowest common multiple by factoring. Fractions, simple and complex. Simple equations, both numerical and literal, containing one or more unknown quantities. Systems of equations. Problems depending on linear equations. Involution and evolution of monomials and polynomials. Radicals, including rationalization. Exponents, including the fractional and negative. Imaginary quantities. Elementary treatment of quadratic equations. The solution of simple problems in quadratic equations.*

*It is assumed that the pupils will be required throughout the course to solve numerous problems which involve putting questions into equations. Familiarity with the metric system is presupposed. Some of these problems should be chosen from mensuration, from physics and from commercial life. The use of graphic methods and illustrations, particularly in connection with the solution of equations, is also expected. On the other hand, the student must be guarded against the tendency to become mechanical in his algebraic work. Algebra is not to be used as a T-square. Above all the student should be thoroughly grounded in the fundamental principles, operations and definitions. It is recommended that Wells' Academic Algebra, Wentworth's Algebra, or an equivalent be used.

II. Algebra. One and one-half units. In addition to Paragraph I, the following: The completion of quadratic equations, both numerical and literal. A standard form for the solutions of these equations. The discriminant condition for equal roots, real and imaginary roots. Relations among the roots and the coefficients of the equation. The nature of the roots when the different co-efficients approach zero. Simultaneous quadratic equations. Systems of equations, simple and quadratic. Property of quadratic surds and solution of equations containing radicals. Problems leading to quadratic equations. Ratio and proportion. The binomial theorem for positive integral exponents.

III. Algebra. Two units. In addition to the work outlined in Paragraphs I and II, the following: Convergence of infinite series. Binomial theorem with fractional or negative exponents. Exponential and logarithmic series. Formation of logarithms to base e, to base 10. Properties and application of logarithms. The progressions. Continued fractions.

IV. Plane Geometry. One unit. The work required in Plane Geometry is practically the equivalent of the first five books in Wells's, Sanders's, or Wentworth's Geometry. Emphasis should be given to the demonstration of original problems and the solution of original exercises, including loci problems. Application to the mensuration of lines and plane surfaces.

V. Solid Geometry. One-half unit. The usual theorems and constructions of good text-books. Emphasis should be given to the demonstration of original problems and the solution of original exercises, including loci problems. Application to the mensuration of surfaces and solids.

VI. Plane Trigonometry. One-half unit. Definitions and relations of the six trigonometric functions as ratios, *not* as lines. Circular measurement of angles. Proofs of principal formulas, in particular those for the sine, cosine and tangent of the sum and the difference of two angles, of the double angle and the half angle, the product expression for the sum or the difference of two sines or of two cosines, etc.; the transformation of trigonometric expressions by means of these formulas.

VII. Trigonometry. One unit. In addition to Paragraph VI, the following: Solutions of triangles, right-angled and oblique, requiring a knowledge of logarithms. Application to heights and distances. Demoivre's Theorem. Properties of spherical triangles. Formulas connecting the sides and angles of spherical triangles. Napier's Analogies. Gauss' Theorem. Solution of spherical triangles.

PHYSICS.

One unit. The candidate must be well prepared in the elementary theory of the subject and must present a note-book showing the quantitative work done by him in the laboratory.

The instruction in the class-room should include qualitative lecture-room experiments, the solution of numerous problems, and the study of some one standard text-book, such as Hoadley, Carhart and Chute, Gage's *Elements*, Wentworth and Hill, and Hall and Bergen.

Every candidate for admission on examination is required to present a laboratory note-book, signed by the teacher, containing the results of quantitative experiments performed by him in the laboratory. At least thirty quantitative experiments must have been performed, of which ten must be in mechanics, and which must also include three of the subjects, light, heat, electricity, and sound. The thirty experiments are to be selected from a list of sixty or more, which may be had by addressing the Secretary of the University. In general, the list follows that adopted by the National Educational Association, which may be found in *The Teaching of Chemistry and Physics*, Smith and Hall, Chapter X.

Laboratory note-books will be examined for neatness, language, accuracy, and proficiency in physics. They should be called for within one month after presentation.

CHEMISTRY.

One unit. The student's preparation should consist of an elementary course in chemistry (one year)* of the character taught in the better class of high schools. It should include:

(*a*) Individual laboratory work, to the extent of at least one-third of the time;

(*b*) Instruction by lecture table demonstration, to be used when expensive apparatus or superior skill in manipulation is indispensable;

(*c*) The study of at least one standard text-book, to the end that the pupil may gain a connected view of the subject.

Either in the class-room or by experimental treatment in the laboratory, the course should take up for consideration the important modes of occurrence, the principal methods of preparation, the essential physical and chemical properties, and the recogni-

*The course should cover from thirty-five to forty weeks, with four to five periods per week. Two hours of laboratory work count as one period of recitation.

required in Mathematics, may be admitted conditionally to the College of Engineering. All such entrance conditions will be removed in case the student passes in all of his Freshman work; otherwise, he will be required to pass entrance examinations to satisfy said conditions before he will be allowed to register for his second year of work at the University.

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Students intending to take these entrance examinations should consult the statement of the entrance requirements, as printed on a preceding page, and arrange to take their examinations

(*a*) in the fixed requirements, and

(*b*) in enough additional subjects to make a total of sixteen units.

The work covered by each unit or group of units in the various subjects may be found on the following pages. Specimen entrance examination questions will be furnished free of charge on application to the Director of School Affiliation.

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11:00-12:00	English	1 unit	additional
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3:00- 4:00	Solid Geometry	½ unit	
4:00- 5:00	Physical Geometry	½ or 1 unit	

September 20, 1910; January 24 and May 23, 1911:

8:30-10:30	Latin	1 or 2 units	
10:30-12:00	Latin	1 or 2 units	additional

with notes on the same. The note-book will be graded as one-third of the examination. The student will be expected to know the classification of animals into phyla and classes, and he must be able to state the chief characteristics and to compare the general life activities of examples of each of the principal classes. He must know the general plan of internal structure of one vertebrate (frog or fish) in general comparison with the human body; an arthropod (crustacean or insect); an annelid (earthworm or Nereis); a coelenterate (hydroid, hydra or sea-anemone); a protozoon (a ciliate and amoeba when possible). A mollusk (clam or mussel), an echinoderm or a second vertebrate may be substituted for any of the above types. A knowledge of the very general features of cell division, of the cellular nature of germ-cells, and the essentials of embryological development will be expected, as well as some understanding of the main facts involved in the struggle for existence, adaptation to environment, and variation of individuals.

Such books as Benedict's *Animal Adaptations*, Colton's *Descriptive and Practical Zoology*, Harvey's *Introduction to the Study of Zoology*, or Kingsley's *Comparative Zoology* cover this ground adequately. At least half of the student's work must have been laboratory work, guided by definite directions.

BOTANY.

One unit. A laboratory note-book containing drawings of the parts of two kinds of flowering plants, of a fern, moss, liverwort, toadstool, lichen, and mould, must be presented with the certificate of his teacher that it is the student's own work. The note-book will count for one-third of the work.

A knowledge of the names and distinguishing characteristics of the different phyla and the classes will be required, and the kind of alternation of generations found in the three highest phyla must be known. A general knowledge of the principal plant societies and the relation between their structures and environments, as well as an understanding of the adaptions by which the flowering plant does its necessary work are important requirements.

Bergen, Bessey, Atkinson, Caldwell, Coulter, and Leavitt are representatives of the type of elementary texts accorded recognition.

Grammar.—It is expected that the applicant will be familiar with the essentials of English grammar, and will be able to explain the construction of sentences that occur in the classics he has read.

English Classics.—The following books are recommended for reading and study, 1910-1911. For reading: Addison's DeCoverley Papers in *The Spectator;* Coleridge's *Ancient Mariner;* George Eliot's *Silas Marner;* Goldsmith's *Vicar of Wakefield;* Lowell's *Vision of Sir Launfal;* Scott's *Ivanhoe;* Scott's *Lady of the Lake;* Shakspere's *Merchant of Venice;* Tennyson's *Gareth and Lynette, Lancelot and Elaine,* and *The Passing of Arthur.* For study and practice: Burke's *Speech on Conciliation with America,* or as alternative to this Washington's *Farewell Address* and Webster's *First Bunker Hill Oration;* Carlyle's *Essay on Burns* or Macaulay's *Life of Johnson;* Milton's *Lycidas. Comus, L'Allegro,* and *Il Penseroso;* Shakspere's *Macbeth.*

Equivalents for these books will be accepted, but in general it is expected that the applicant's preparation will have included the reading of the books in this list. All the books should be read with care and appreciation, but particular attention should be given, with regard to form, structure, and style, to those intended for study and practice. In addition, the student should have some definite knowledge of the lives of the authors read and of the history of their times.

The committing to memory of fine passages from the English Classics is a practice much to be commended and should regularly form part of the exercises of the preparatory course.

II. Four units. For four units in English composition and literature the preparation should extend throughout the four years of the high school course. Besides the subjects mentioned above, the applicant should have studied the outlines of English literary history. His study should be based upon one of the recent manuals of English literature, the study of the text being accompanied by as much reading as possible of representative authors.

The applicant for admission by examination must be prepared to answer questions on the fundamental principles of composition and English grammar, on the books studied and on the lives of their authors; to write a short descriptive, narrative, expository, or argumentative essay on a subject suggested by his own experience or observation, and an essay of not less than three hundred words on a subject drawn from the books read. The spelling, punctuation, and use of capitals in these essays must be correct, the words chosen with discrimination, and the sentences and paragraphs clear and well ordered.

The applicant for four units must be prepared to answer, in addition, questions in the history of English literature.

assumes a knowledge of the larger text-books, a greater familiarity with laboratory exercises, and such a knowledge of the United States as will enable the candidate readily to cite illustrations of all topographic forms.

ASTRONOMY.

One-half unit. The student should be familiar with:

(*a.*) Such fundamental notions and definitions as are necessary to locate celestial bodies.

(*b.*) The names and positions of the most conspicuous stars and constellations and be able to trace the positions of the ecliptic across the sky at certain times during the year.

(*c.*) The most important facts concerning the form, dimensions, mass, density, rotation and orbital motion of the earth, including seasons, tides, eclipses, and other dependent phenomena; also methods for determining the mass of the earth.

(*d.*) The essentials concerning the sun, moon, and planets, including methods for determining their respective distances, motions, etc.

(*e.*) The various hypotheses of the stellar universe and cosmogony.

Every student should visit a well-equipped observatory at least twice, once during the day to examine the apparatus, and once at night to view the heavens.

GEOLOGY.

One-half unit. The scope here intended is that of the text-books appropriate to high schools and preparatory schools, and includes the elements of dynamic, structural, and historical geology. The applicant must be able to distinguish specimens of the more general types of igneous and sedimentary rocks; also to classify in a general way the more common fossils and state the most general facts concerning their place in geological history. Examinations will also involve the interpretation of geologic maps. Laboratory exercises may be given, requiring the interpretations of such diagrams and views as are used for text-book illustration.

A knowledge of Physical Geography is required of all candidates in Geology. Norton's *Elements of Geology*, and Brigham's *Text of Geology*, are suitable texts.

HISTORY.

1. General History, or Medieval and Modern History. One unit. General History: Myers, Barnes, or G. B. Adams (complete). Medieval and Modern History: Munro and Whitcomb, Myers, Thatcher and Schwill, Harding's *Essentials*, or Robinson's *History of Western Europe* (complete).

II. English History. One unit. English History: Montgomery, Walker, Andrews, Cheyney, Larned, or Wrong (complete). (Where half time is given to this subject a half unit may be offered.)

III. Ancient History. One unit. Ancient History: Myers, Seignobos, West, or Wolfson (complete). (Where half time is given to the subject a half unit may be offered.)

IV. American History. One unit. American History: Adams and Trent, Channing, Larned, McLaughlin, Montgomery (student's), McMaster, or Hart's *Essentials* (complete).

V. American History and Civics. One unit. See list in IV for American History. For Civics, James and Sanford: *Government in State and Nation*, or an equivalent text.

CIVICS.

One-half unit. James and Sanford: *Government in State and Nation*, or an equivalent text. (See V under History above.)

DRAWING.

One unit. One unit for entrance will be allowed for Freehand Drawing or Mechanical Drawing, or both. The student must have done the equivalent of at least two years' work of not less than four periods a week of forty-five minutes each.

The work in Freehand Drawing should include outline drawing from models, principles of light and shade, application of conventional forms, ornaments, design, etc.

The course in Mechanical Drawing should cover lettering, simple geometric problems, projections, solution of problems of helix, cycloid, parabola, etc.

The candidate for admission on examination must present at the time of, and as a part of, his examination a full set of drawings, with the teacher's certificate that they are the candidate's work.

MANUAL TRAINING.

Drawing. Two units.—Two units of credit will be allowed the drawing which is given as a part of the Manual Training course, providing it covers four years of work and is done in accordance with the regulations governing laboratory work; that is, twice the time must be given to the subject each week as is given to a regular recitation period.

Shop work. Two units.—Two units of credit will be allowed for shop work of the four-year course in Manual Training. The course must include carpentry, wood turning, pattern making, foundry work, forging, and machine work, and the proper courses in drawing must accompany such work.

The amount of time spent in shop to receive one credit must be at least double the time spent in regular recitation work. The candidate for admission on examination must present at the time of, and as a part of his examination a certified list of courses completed by him, the drawings for the same, and such statements of his work as will give an adequate idea of the efficiency of the course.

ADMISSION ON CERTIFICATE FROM ACCREDITED SCHOOLS.

Work of passing grade will be accepted from graduates of the University's accredited schools in lieu of the entrance examinations upon the presentation of the proper certificate, signed by the principal of the school, certifying to the work of the candidate. All certificates presented for admission must specify the work actually done and the grade received in each course. Blank forms will be furnished upon application to the Dean of the College of Engineering.

These certificates, properly made out, should be sent to the Dean of College of Engineering, University of Cincinnati, Cincinnati, Ohio," as soon as possible after graduation, and at least five days before the first day of registration. Upon receipt of the certificate, the Dean will pass upon the application and if it is satisfactory, will send a card of admission, which should be presented to the Registrar at the opening of the session. If the certificate is not satisfactory, the candidate will be informed, so that he may prepare himself for the entrance examinations.

*LIST OF ACCREDITED SCHOOLS.

The following preparatory schools and high schools are on the accredited list of the University of Cincinnati. This list is

*Superintendents or principals who may desire to have their schools accredited by the University, should address the Director of School Affiliation.

In general, to obtain two units in German, two years' work in a good preparatory school is required.

III. Three units.

(*a*) The translation at sight of ordinary German.

(*b*) The translation into German of a connected passage of English prose, to test the candidate's familiarity with grammar.

The candidate ought to have read not less than four hundred pages of classical and contemporary prose and verse. It is recommended that the reading be selected from such works as Schiller's *Wilhelm Tell;* Lessing's *Minna von Barnhelm;* Goethe's *Hermann und Dorothea;* Wildenbruch's *Das edle Blut;* Fontane's *Vor dem Sturm;* Moser's *Kopnickerstrasse.*

Generally speaking, three years' work in a good preparatory school will be necessary in order to meet the requirements for three units.

IV. Four units.

(*a*) The translation at sight of ordinary German.

(*b*) The translation into German of a connected passage of English prose, to test the candidate's familiarity with grammar. The candidate will be expected to show a thorough knowledge of accidence, the principal uses of prepositions and conjunctions, and the essentials of syntax, especially the uses of the modal auxiliaries and of the subjunctive and infinitive modes.

The candidate ought to have read not less than six hundred pages of classical and contemporary prose and verse. It is recommended that the reading be selected from such works as Schiller's *Jungfrau von Orleans;* Goethe's *Iphigenie;* Freytag's *Die Journalisten, Soll und Haben, Bilder aus der deutschen Vergangenheit;* Riehl's *Culturgeschichtliche Novellen.*

In general, to obtain four units in German, four years' work in a good preparatory school is required.

SPANISH.

I. One unit:

(*a*) The translation at sight of simple Spanish prose.

(*b*) The essentials of grammar, including the conjugations of the regular and the most frequently used irregular verbs. The translation into Spanish of short sentences, intended to test the candidate's knowledge of the essential points in grammar. Conversation and dictation.

In general, one year's work in a preparatory school, or its equivalent, is necessary to meet the requirements for one unit. The candidate will be expected to have worked through a short Spanish grammar, or the principal parts of a more complete one,

LIST OF RECOGNIZED SCHOOLS.

The work of the following schools is recognized by the University. Graduates of these schools will be given entrance credit without examination for such work as they have completed in a satisfactory manner.

CITY	NAME OF SCHOOL	PRINCIPAL
Cincinnati, O.	East Night High School	Albert Schwartz
Cincinnati, O.	West Night High School	W. C. Washburn
Cincinnati, O.	Notre Dame Academy, Sixth Street	Sister Mary Borgia
Cincinnati, O.	Notre Dame Academy, Court and Mound Streets	Sister Cornelia
Dayton, O.	College Preparatory School	A. B. Shauck
Dayton, Ky.	High School	James McGinnis, Supt.
Highlands, Ky.	High School	F. A. Cosgrove
Mt. Washington, O.	High School	A. M. Beck, Supt.
Terrace Park, O.	High School	B. T. Shiek

ACCREDITED SCHOOLS OF THE NORTH CENTRAL ASSOCIATION.

Graduates of the secondary schools approved by the North Central Association of Colleges and Secondary Schools will be admitted to the University of Cincinnati in accordance with the provision for "Admission on certificate from accredited schools."

The list of schools approved by this Association for 1910-11 is as follows:

Colorado.—*Aspen; Canon City; Canon City (South); Colorado Springs; Colorado State Preparatory; (Boulder); Cripple Creek; Delta; Denver: East Side, West Side, North Side, South Side, Manual Training; Durango: Florence; Fort Collins; Fort Morgan; Golden; Grand Junction; Greeley; Idaho Springs; Leadville; Longmont; Loveland; Monte Vista; La Junta (Otero County); Pueblo: District 1, District 20; Rocky Ford; Salida; Trinidad; Victor.*

Illinois.—*Alton; Aurora: East, West; Belvidere: North, South; Bloomington; Bradley Polytechnic Institute (Peoria); Blue Island; Cairo; Carthage; Carthage Col. Academy; Centralia; Champaign; Chicago: Austin, Calumet, Crane (Man. Tr.), Curtis, Englewood, Hyde Park, Lake, Lake View, Marshall, McKinley, Medill, Phillips, South Chicago, Tuley Waller; Chicago Heights (Bloom Tp.); Clinton; Danville; Decatur; De Kalb Tp.; Des Plaines (Maine Tp.); Dixon; Dundee; Duquoin Tp.; Elgin; Elgin Acad.; Evanston Tp.; Evanston Acad.; Ferry Hall (Lake Forest); Francis Shimer Academy; F. W.*

II. Algebra. One and one-half units. In addition to Paragraph I, the following: The completion of quadratic equations, both numerical and literal. A standard form for the solutions of these equations. The discriminant condition for equal roots, real and imaginary roots. Relations among the roots and the coefficients of the equation. The nature of the roots when the different co-efficients approach zero. Simultaneous quadratic equations. Systems of equations, simple and quadratic. Property of quadratic surds and solution of equations containing radicals. Problems leading to quadratic equations. Ratio and proportion. The binomial theorem for positive integral exponents.

III. Algebra. Two units. In addition to the work outlined in Paragraphs I and II, the following: Convergence of infinite series. Binomial theorem with fractional or negative exponents. Exponential and logarithmic series. Formation of logarithms to base e, to base 10. Properties and application of logarithms. The progressions. Continued fractions.

IV. Plane Geometry. One unit. The work required in Plane Geometry is practically the equivalent of the first five books in Wells's, Sanders's, or Wentworth's Geometry. Emphasis should be given to the demonstration of original problems and the solution of original exercises, including loci problems. Application to the mensuration of lines and plane surfaces.

V. Solid Geometry. One-half unit. The usual theorems and constructions of good text-books. Emphasis should be given to the demonstration of original problems and the solution of original exercises, including loci problems. Application to the mensuration of surfaces and solids.

VI. Plane Trigonometry. One-half unit. Definitions and relations of the six trigonometric functions as ratios, *not* as lines. Circular measurement of angles. Proofs of principal formulas, in particular those for the sine, cosine and tangent of the sum and the difference of two angles, of the double angle and the half angle, the product expression for the sum or the difference of two sines or of two cosines, etc.; the transformation of trigonometric expressions by means of these formulas.

VII. Trigonometry. One unit. In addition to Paragraph VI, the following: Solutions of triangles, right-angled and oblique, requiring a knowledge of logarithms. Application to heights and distances. Demoivre's Theorem. Properties of spherical triangles. Formulas connecting the sides and angles of spherical triangles. Napier's Analogies. Gauss' Theorem. Solution of spherical triangles.

PHYSICS.

One unit. The candidate must be well prepared in the elementary theory of the subject and must present a note-book showing the quantitative work done by him in the laboratory.

The instruction in the class-room should include qualitative lecture-room experiments, the solution of numerous problems, and the study of some one standard text-book, such as Hoadley, Carhart and Chute, Gage's *Elements*, Wentworth and Hill, and Hall and Bergen.

Every candidate for admission on examination is required to present a laboratory note-book, signed by the teacher, containing the results of quantitative experiments performed by him in the laboratory. At least thirty quantitative experiments must have been performed, of which ten must be in mechanics, and which must also include three of the subjects, light, heat, electricity, and sound. The thirty experiments are to be selected from a list of sixty or more, which may be had by addressing the Secretary of the University. In general, the list follows that adopted by the National Educational Association, which may be found in *The Teaching of Chemistry and Physics*, Smith and Hall, Chapter X.

Laboratory note-books will be examined for neatness, language, accuracy, and proficiency in physics. They should be called for within one month after presentation.

CHEMISTRY.

One unit. The student's preparation should consist of an elementary course in chemistry (one year)* of the character taught in the better class of high schools. It should include:

(*a*) Individual laboratory work, to the extent of at least one-third of the time;

(*b*) Instruction by lecture table demonstration, to be used when expensive apparatus or superior skill in manipulation is indispensable;

(*c*) The study of at least one standard text-book, to the end that the pupil may gain a connected view of the subject.

Either in the class-room or by experimental treatment in the laboratory, the course should take up for consideration the important modes of occurrence, the principal methods of preparation, the essential physical and chemical properties, and the recogni-

*The course should cover from thirty-five to forty weeks, with four to five periods per week. Two hours of laboratory work count as one period of recitation.

tion of the elementary substances and their chief compounds, commonly considered in the standard text-books. More detailed study should be given to those of frequent occurrence, or of especial scientific importance.

The candidate should be able to state the significance of such commonly used terms as homogeneous body, solution, element, compound. By the use of definite examples, he should be able to show what kinds of facts have led to the formulation of such essential laws as the laws of definite and of multiple proportions, the law of combining weights, the laws of the expansion of gases, and the law of volumes of reacting gases.

He should be qualified to give a statement of the nature of the processes by the aid of which chemists determine equivalent weights, choose molecular weights, and select atomic weights; furthermore, to explain the significance of chemical symbols, and the manner of arriving at chemical formulæ (not graphic) after the necessary quantitive data are obtained in the laboratory.

Such terms as valence, acid, base, salt, neutralization, hydrolysis, oxidation, reduction, decomposition, dissociation, electrolysis, ionization, should have a meaning to the student, and he should be prepared to define them correctly at least by well chosen illustrations, if they can not be defined precisely by words.

At the time of and as part of the examination in chemistry, every student must present a note-book, containing a description of at least forty experiments. The note-book must include drawings of essential pieces of apparatus used, and an index of the experiments. For the list of experiments recommended, address the Secretary of the University. The laboratory note-book should be called for within one month after presentation.

Text-books recommended: McPherson and Henderson, Hessler and Smith, Newell, Bradbury, Remsen (Briefer Course), Torrey, and Story and Lindsay. Other texts than the one prescribed should be available to the student for reference. Ostwald's *Conversations on Chemistry* will be found stimulating and suggestive for collateral reading.

ZOOLOGY.

One unit. The candidate will be required to present his original note-book of practical laboratory study, together with the dates and the endorsement of his teacher, certifying that the book is a true record of the pupil's own work. The note-book should contain carefully labeled outline drawings of the chief structures studied in at least fifteen different animals, together

with notes on the same. The note-book will be graded as one-third of the examination. The student will be expected to know the classification of animals into phyla and classes, and he must be able to state the chief characteristics and to compare the general life activities of examples of each of the principal classes. He must know the general plan of internal structure of one vertebrate (frog or fish) in general comparison with the human body; an arthropod (crustacean or insect); an annelid (earthworm or Nereis); a coelenterate (hydroid, hydra or sea-anemone); a protozoon (a ciliate and amoeba when possible). A mollusk (clam or mussel), an echinoderm or a second vertebrate may be substituted for any of the above types. A knowledge of the very general features of cell division, of the cellular nature of germ-cells, and the essentials of embryological development will be expected, as well as some understanding of the main facts involved in the struggle for existence, adaptation to environment, and variation of individuals.

Such books as Benedict's *Animal Adaptations*, Colton's *Descriptive and Practical Zoology*, Harvey's *Introduction to the Study of Zoology*, or Kingsley's *Comparative Zoology* cover this ground adequately. At least half of the student's work must have been laboratory work, guided by definite directions.

BOTANY.

One unit. A laboratory note-book containing drawings of the parts of two kinds of flowering plants, of a fern, moss, liverwort, toadstool, lichen, and mould, must be presented with the certificate of his teacher that it is the student's own work. The note-book will count for one-third of the work.

A knowledge of the names and distinguishing characteristics of the different phyla and the classes will be required, and the kind of alternation of generations found in the three highest phyla must be known. A general knowledge of the principal plant societies and the relation between their structures and environments, as well as an understanding of the adaptions by which the flowering plant does its necessary work are important requirements.

Bergen, Bessey, Atkinson, Caldwell, Coulter, and Leavitt are representatives of the type of elementary texts accorded recognition.

BOTANY AND ZOOLOGY.

One unit. A unit will be accepted only when Botany and Zoology have each been studied for half a year in one continuous course which extends throughout the year. Such a course will be reckoned as a one-unit course in Biology. A half year of one, independent of the other, will not be accepted. It is strongly recommended that the student devote an entire year to Botany, or to Zoology for one unit, instead of combining Botany and Zoology for a single unit.

At least half of the work must have been laboratory work guided by definite directions. A laboratory note-book containing drawings and observations upon at least ten kinds of animals (both vertebrate and invertebrate) and ten kinds of plants (both flowering and non-flowering) must be presented with the certificate of the teacher that it is the student's own work. The student will be required to answer in writing general questions upon familiar animals, such as the frog, fish, earthworm, paramoecium, cray fish, etc., and upon common plants, such as the fern, moss, mushroom and simple flowering plants. In both Botany and Zoology a knowledge of the names and distinguishing characteristics of the different phyla and their classes will be required. The note-book will count for one-third of the work.

PHYSICAL GEOGRAPHY.

One-half unit. The scope of the work required for one-half unit in Physical Geography is represented by the standard modern text-books, some of which are named below. This includes the earth as a whole, atmosphere, ocean and land, with special emphasis on the work of water on the land in making topographic features. Entrance examinations may include simple interpretations of topographic maps, weather maps, and such charts as are given in text-books, the pointing out of features of scientific importance in such pictures as are used in text-books, and simple demonstrations with globes.

Dryer, *Lessons in Physical Geography;* Tarr, *New Physical Geography;* Gilbert and Brigham, *Introduction to Physical Geography;* Davis, *Physical Geography;* Ward, *Practical Exercises in Elementary Meteorology;* and *Physiography of the United States* (10 National Geographic Monographs), are recommended as suitable texts.

One unit. For a sufficiently thorough and extended knowledge of the subject, and at the option of the examiner, a credit of one unit may be given. Examinations for one unit's credit

assumes a knowledge of the larger text-books, a greater familiarity with laboratory exercises, and such a knowledge of the United States as will enable the candidate readily to cite illustrations of all topographic forms.

ASTRONOMY.

One-half unit. The student should be familiar with:

(*a.*) Such fundamental notions and definitions as are necessary to locate celestial bodies.

(*b.*) The names and positions of the most conspicuous stars and constellations and be able to trace the positions of the ecliptic across the sky at certain times during the year.

(*c.*) The most important facts concerning the form, dimensions, mass, density, rotation and orbital motion of the earth, including seasons, tides, eclipses, and other dependent phenomena; also methods for determining the mass of the earth.

(*d.*) The essentials concerning the sun, moon, and planets, including methods for determining their respective distances, motions, etc.

(*e.*) The various hypotheses of the stellar universe and cosmogony.

Every student should visit a well-equipped observatory at least twice, once during the day to examine the apparatus, and once at night to view the heavens.

GEOLOGY.

One-half unit. The scope here intended is that of the text-books appropriate to high schools and preparatory schools, and includes the elements of dynamic, structural, and historical geology. The applicant must be able to distinguish specimens of the more general types of igneous and sedimentary rocks; also to classify in a general way the more common fossils and state the most general facts concerning their place in geological history. Examinations will also involve the interpretation of geologic maps. Laboratory exercises may be given, requiring the interpretations of such diagrams and views as are used for text-book illustration.

A knowledge of Physical Geography is required of all candidates in Geology. Norton's *Elements of Geology*, and Brigham's *Text of Geology*, are suitable texts.

HISTORY.

1. General History, or Medieval and Modern History. One unit. General History: Myers, Barnes, or G. B. Adams (complete). Medieval and Modern History: Munro and Whitcomb, Myers, Thatcher and Schwill, Harding's *Essentials*, or Robinson's *History of Western Europe* (complete).

II. English History. One unit. English History: Montgomery, Walker, Andrews, Cheyney, Larned, or Wrong (complete). (Where half time is given to this subject a half unit may be offered.)

III. Ancient History. One unit. Ancient History: Myers, Seignobos, West, or Wolfson (complete). (Where half time is given to the subject a half unit may be offered.)

IV. American History. One unit. American History: Adams and Trent, Channing, Larned, McLaughlin, Montgomery (student's), McMaster, or Hart's *Essentials* (complete).

V. American History and Civics. One unit. See list in IV for American History. For Civics, James and Sanford: *Government in State and Nation*, or an equivalent text.

CIVICS.

One-half unit. James and Sanford: *Government in State and Nation*, or an equivalent text. (See V under History above.)

DRAWING.

One unit. One unit for entrance will be allowed for Freehand Drawing or Mechanical Drawing, or both. The student must have done the equivalent of at least two years' work of not less than four periods a week of forty-five minutes each.

The work in Freehand Drawing should include outline drawing from models, principles of light and shade, application of conventional forms, ornaments, design, etc.

The course in Mechanical Drawing should cover lettering, simple geometric problems, projections, solution of problems of helix, cycloid, parabola, etc.

The candidate for admission on examination must present at the time of, and as a part of, his examination a full set of drawings, with the teacher's certificate that they are the candidate's work.

MANUAL TRAINING.

Drawing. Two units.—Two units of credit will be allowed the drawing which is given as a part of the Manual Training course, providing it covers four years of work and is done in accordance with the regulations governing laboratory work; that is, twice the time must be given to the subject each week as is given to a regular recitation period.

Shop work. Two units.—Two units of credit will be allowed for shop work of the four-year course in Manual Training. The course must include carpentry, wood turning, pattern making, foundry work, forging, and machine work, and the proper courses in drawing must accompany such work.

The amount of time spent in shop to receive one credit must be at least double the time spent in regular recitation work. The candidate for admission on examination must present at the time of, and as a part of his examination a certified list of courses completed by him, the drawings for the same, and such statements of his work as will give an adequate idea of the efficiency of the course.

ADMISSION ON CERTIFICATE FROM ACCREDITED SCHOOLS.

Work of passing grade will be accepted from graduates of the University's accredited schools in lieu of the entrance examinations upon the presentation of the proper certificate, signed by the principal of the school, certifying to the work of the candidate. All certificates presented for admission must specify the work actually done and the grade received in each course. Blank forms will be furnished upon application to the Dean of the College of Engineering.

These certificates, properly made out, should be sent to the Dean of College of Engineering, University of Cincinnati, Cincinnati, Ohio," as soon as possible after graduation, and at least five days before the first day of registration. Upon receipt of the certificate, the Dean will pass upon the application and if it is satisfactory, will send a card of admission, which should be presented to the Registrar at the opening of the session. If the certificate is not satisfactory, the candidate will be informed, so that he may prepare himself for the entrance examinations.

*LIST OF ACCREDITED SCHOOLS.

The following preparatory schools and high schools are on the accredited list of the University of Cincinnati. This list is

*Superintendents or principals who may desire to have their schools accredited by the University, should address the Director of School Affiliation.

subject to change from year to year, and each school is visited each year by a representative of the University:

CITY	NAME OF SCHOOL	PRINCIPAL
Bellevue, Ky.	High School	*H. L. Eby
Carthage, O.	High School	C. A. Wilson
Cincinnati, O.	Oakhurst Collegiate School	H. F. Kendrick
Cincinnati, O.	The Bartholomew Clifton School.	Miss E. A. Ely Mary F. Smith
Cincinnati, O.	Franklin School	J. E. White G. S. Sykes
Cincinnati, O.	The College Preparatory School for Girls	Mary Doherty
Cincinnati, O.	The H. Thane Miller School	Mrs. H. Miller Emma L. Parry
Cincinnati, O.	Hughes High School	E. W. Coy
Cincinnati, O.	Walnut Hills High School	Wm. T. Harris
Cincinnati, O.	Woodward High School	E. D. Lyon
Cincinnati, O.	University School	Wm. E. Stilwell
Cincinnati, O.	Notre Dame Academy, Grandin Rd.	†Sister Frances
College Hill, O.	Ohio Military Institute	§A. M. Henshaw S. P. C. Roberts
College Hill, O.	High School	G. N. Tremper *Wm. Altamer
Covington, Ky.	High School	H. S. Cox *H. O. Sluss
Dayton, O.	Steele High School	C. L. Loos, Jr. *E. N. Brown
Glendale, O.	High School	*E. H. Foster
Hamilton, O.	High School	W. P. Cope *Darrel Joyce
Hartwell, O.	High School	S. J. Mauchly *J. L. Trisler
Home City, O.	High School	*J. O. Falkenburg
Jeffersonville, Ind.	High School	F. E. Andrew *C. M. Marble
Lawrenceburg, Ind.	High School	M. D. Webb *J. W. Riddle
Lebanon, O	High School	Joseph Lyle *J. M. Hamilton
Lockland, O.	High School	*S. F. Dial
Ludlow, Ky.	High School	W. D. Reynolds *C. G. Walden
Madisonville, O.	High School	*C. M. Merry
Middletown, O.	High School	Geo. G. Stahl *A. Powell
Milford, O.	High School	L. D. Grannis *J. L. Fortney
Newport, Ky.	High School	C. G. Hammond *E. Regenstein
Norwood, O.	High School	W. W. McIntire *W. S. Cadman
Oxford, O.	The Academy of Oxford College	Mary Thompson
Pleasant Ridge, O.	High School	*T. L. Simmermon
Wyoming, O.	High School	*C. S. Fay

* Superintendent †Mother Superior §Commandant ‡President

LIST OF RECOGNIZED SCHOOLS.

The work of the following schools is recognized by the University. Graduates of these schools will be given entrance credit without examination for such work as they have completed in a satisfactory manner.

CITY	NAME OF SCHOOL	PRINCIPAL
Cincinnati, O.	East Night High School	Albert Schwartz
Cincinnati, O.	West Night High School	W. C. Washburn
Cincinnati, O.	Notre Dame Academy, Sixth Street	Sister Mary Borgia
Cincinnati, O.	Notre Dame Academy, Court and Mound Streets	Sister Cornelia
Dayton, O.	College Preparatory School	A. B. Shauck
Dayton, Ky.	High School	James McGinnis, Supt.
Highlands, Ky.	High School	F. A. Cosgrove
Mt. Washington, O.	High School	A. M. Beck, Supt.
Terrace Park, O.	High School	B. T. Shiek

ACCREDITED SCHOOLS OF THE NORTH CENTRAL ASSOCIATION.

Graduates of the secondary schools approved by the North Central Association of Colleges and Secondary Schools will be admitted to the University of Cincinnati in accordance with the provision for "Admission on certificate from accredited schools."

The list of schools approved by this Association for 1910-11 is as follows:

Colorado.—*Aspen; Canon City; Canon City (South); Colorado Springs; Colorado State Preparatory; (Boulder); Cripple Creek; Delta; Denver: East Side, West Side, North Side, South Side, Manual Training; Durango: Florence; Fort Collins; Fort Morgan; Golden; Grand Junction; Greeley; Idaho Springs; Leadville; Longmont; Loveland; Monte Vista; La Junta (Otero County); Pueblo: District 1, District 20; Rocky Ford; Salida; Trinidad; Victor.*

Illinois.—*Alton; Aurora: East, West; Belvidere: North, South; Bloomington; Bradley Polytechnic Institute (Peoria); Blue Island; Cairo; Carthage; Carthage Col. Academy; Centralia; Champaign; Chicago: Austin, Calumet, Crane (Man. Tr.), Curtis, Englewood, Hyde Park, Lake, Lake View, Marshall, McKinley, Medill, Phillips, South Chicago, Tuley Waller; Chicago Heights (Bloom Tp.); Clinton; Danville; Decatur; De Kalb Tp.; Des Plaines (Maine Tp.); Dixon; Dundee; Duquoin Tp.; Elgin; Elgin Acad.; Evanston Tp.; Evanston Acad.; Ferry Hall (Lake Forest); Francis Shimer Academy; F. W.*

Parker (Chicago); Freeport; Galva; Grand Prairie Seminary (Onarga); Harrisburg Tp.; Harvey (Thornton Tp.); Highland Park (Deerfield Tp.); Hinsdale; Hoopeston; Ill. Woman's Col. Prep. Dept. (Jacksonville); Joliet Tp.; J. Sterling Morton Tp.; Kankakee; Kenwood Institute (Chicago); Kewanee; Lake Forest Academy; La Salle (Peru Tp.); Lovington Tp.; Lyons Tp.; (La Grange); Macomb; Marshall; Mattoon; Maywood and Melrose Park Tp.; Moline; Monmouth; Morgan Park; Mt. Vernon Tp.; New Trier Tp.; Normal; N. W. Military Academy; Oak Park Tp.; Ottawa Tp ; Pekin; Peoria; Polo; Pontiac Tp.; Princeton Tp.; Quincy; Rochelle; Rockford; Rock Island; Savanna Tp.; Springfield; Sterling Tp.; Streator Tp.; Taylorville Tp.; Tuscola; Urbana; Waukegan Tp.; Western Mil. Acad. (Upper Alton); Wheaton.

Indiana.—*Alexandria; Anderson; Angola; Attica; Bedford; Columbus; Connersville; Crawfordsville; Evansville; Ft. Wayne; Frankfort; Franklin; Goshen; Greenfield; Greensburg; Howe (Lima); Huntington; Indianapolis: Manual Training; Shortridge; Lafayette; La Porte; Michigan City; Mishawaka; Mount Vernon; Muncie; New Albany; New Castle; Noblesville; Peru; Plymouth; Rensselaer; Rochester; Rushville; Seymour; Terre Haute; Tipton; South Bend; Union City; Valparaiso; Wabash; Whiting.*

Iowa.—*Algona; Ames; Boone; Burlington; Cedar Rapids; Centerville; Cherokee; Clarinda; Clinton; Corning; Corydon; Council Bluffs; Cresco; Creston; Davenport; Decorah; Denison; Des Moines; East, North, West; Dubuque; Eagle Grove; Fort Dodge; Grinnell; Ida Grove; Independence; Iowa City; Keokuk; Marengo; Marion; Marshalltown; Mason City; Missouri Valley; Muscatine; Newton; Onawa; Osage; Oskaloosa; Ottumwa; Red Oak; Sac City; Sheldon; Sioux City; Spencer; Villisca; Vinton; Washington; Waterloo: East, West; West Liberty.*

Kansas.—*Abilene; Arkansas City; Emporia; Ft. Scott; Hiawatha; Holton; Iola; Junction City; Kansas City; Lawrence; Leavenworth; Ottawa; Paola; Sumner Co. (Wellington); Topeka; Wichita; Winfield.*

Michigan.—*Adrian; Albion; Alpena; Ann Arbor; Bay City: East, West; Battle Creek; Belding; Benton Harbor; Benton Harbor Col. Inst.; Bessemer; Big Rapids; Birmingham; Cadillac; Calumet; Caro; Charlotte; Cheboygan; Chelsea; Coldwater; Crystal Falls; Detroit: Central, Eastern, Higgins, Home and Day, MacMillan, University, Western; Dowagiac; Escabana;*

Grand Rapids; Grand Haven; Hancock; Hastings; Holland; Houghton; Howell; Ionia; Iron Mountain; Ironwood; Ishpeming; Jackson; Kalamazoo; Lake Linden; Lansing; Ludington; Manistee; Manistique; Marshall; Marquette; Menominee; Monroe; Muskegon; Mt. Clemens; Mt. Pleasant; Negaunee; Niles; Norway; Otsego; Petoskey; Pontiac; Port Huron; Portland; Saginaw: East, West; Sault Ste. Marie; South Haven; St. Johns; St. Joseph; Three Rivers; Traverse City; Union City; Wyandotte; Ypsilanti.

Minnesota.—*Albert Lea; Anoka; Austin; Blue Earth; Cloquet; Duluth Central; Eveleth; Fairmont; Faribault; Fergus Falls; Grand Rapids; Hastings; Hibbing; Hutchinson; Lake City; Mankato; Marshall; Minneapolis: Central, East, North, South, West; Montevideo; Moorhead; Morris; New Ulm, Northfield; Owatonna; Red Wing; Rochester; St. Cloud; St. James; St. Paul: Central, Cleveland, Humbolt; St. Peter; Sleepy Eye; Stillwater; Two Harbors; Virginia; Waseca; Wells; Willmar; Winona.*

Missouri.—*Blees Military Acad. (Macon); Carrollton; Carthage; Drury College Acad. (Springfield); Hardin College (Mexico); Kansas City: Central, Manual Training, Westport; Kemper Military School (Booneville); Maryville; Mexico; Nevada; Poplar Bluff; St. Joseph; St. Louis: Central, Hosmer Hall, McKinley, Manual Training, Smith Academy, Yeatman; Sedalia; Stephen's College; Trenton; Walther College (St. Louis); Webtser Grove; Wentworth Military Academy; Westminster Academy; William Woods College (Fulton).*

Montana.—*Anaconda.*

Nebraska.—*Beatrice; Blair; Brownell Hall (Omaha); Fairbury; Falls City; Fremont; Hastings; Hastings Academy; Holdrege; Kearney; Lincoln; Lincoln Academy; Nebraska City; Nebraska Military Academy; Nebraska Wesleyan Academy; Norfolk; North Platte; Omaha; Pawnee City; Seward; South Omaha; Superior; Tecumseh; York.*

North Dakota.—*Devil's Lake; Fargo; Grafton; Grand Forks; Jamestown.*

Ohio.—*Akron; Akron Buchtel Academy; Ashtabula; Athens; Bellefontaine; Bowling Green; Bryan; Cambridge; Canal Dover; Canton; Chillicothe; Cincinnati: Franklin School, Hughes, University School, Walnut Hills, Woodward; Circleville; Cleveland: Central, East, Glenville, Lincoln, South, University School, West;*

Cleveland Heights; Collinwood; Columbus: Central, East, North, School for Girls, South; Conneaut; Coshocton; Defiance; Delaware; Doane Acad, (Granville); East Cleveland; East Liverpool; Elyria; Findlay; Fostoria; Fremont; Gallipolis; Geneva; Glendale; Greenfield; Greenville; Hamilton; Hillsboro: Kent; Kenton; Lakewood; Lima; London; Lorain; Madisonville; Mansfield; Marietta; Marion; Martins Ferry; Marysville; Massillon; Middletown; Mount Vernon; Nelsonville; Newark; New Philadelphia; Norwood; Oberlin; Oberlin Academy; Oxford College for Women (Academy); Painesville; Piqua; Portsmouth; Ravenna; St. Marys; Salem; Sandusky; Sidney; Steubenville; Toledo; Toledo Smead School; Troy; Urbana; Van Wert; Wapakoneta; Warren; Wauseon; Wellsville; Willoughby; Wooster; Wyoming; Xenia; Zanesville.

Oklahoma.—*Muskogee; Oklahoma City.*

South Dakota.—*Aberdeen; Sioux Falls (All Saints); Brookings; Canton; Deadwood; Huron; Lead; Mitchell; Pierre; Rapid City; Sioux Falls; Vermilion; Watertown; Webster; Yankton.*

Wisconsin.—*Antigo; Appleton; Ashland; Baraboo; Beaver Dam; Beaver Dam Academy (Wayland); Beloit; Beloit Academy; Chippewa Falls; Columbus; Delavan; Eau Claire; Elkhorn; Evansville; Fond du Lac; Fort Atkinson; Grand Rapids; Green Bay (East); Hartford; Hudson; Janesville; Kaukauna; Kenosha; La Crosse; Lancaster; Madison; Madison (Wisconsin Academy); Manitowoc: North, West; Marinette; Marshfield; Menomonie; Merrill; Milwaukee: East, North, South, West; Milwaukee (Downer Seminary); Mineral Point; Monroe; Neenah; Neillsville; New Richmond; Oconto; Oconomowoc; Platteville; Plymouth; Racine; (Racine College Gram. School); Reedsburg; Rhinelander; Ripon; River Falls; Sheboygan; Sinsinawa (St. Clara Academy); South Milwaukee; Sparta; Stevens Point; Stoughton; Sturgeon Bay; Superior: Blaine, Nelson Dewey; Toma; Viroqua; Washburn; Waukesha; Carroll Col. Academy (Waukesha); Waupaca; Wausau; Wauwatosa; Whitewater.*

Wyoming.—*Cheyenne.*

SPECIAL STUDENTS.

Persons at least twenty years of age and qualified to do University work may be admitted as special students to lectures and laboratory courses. They will be required to furnish documentary evidence to the Dean of the College of Engineering, and also to

satisfy the heads of the departments concerned of their ability to carry on successfully the courses which they desire to enter.

Before any special student can become a candidate for a degree he must satisfy the entrance requirements. All special students are amenable to the same regulations as apply to regular students in matters of examination, probation, discipline, etc.

DEGREES.

The technical degrees of Civil Engineer, Chemical Engineer, Electrical Engineer, and Mechanical Engineer will be given to students who satisfactorily complete the work scheduled under the respective departments, and who entered the University prior to September 1, 1907.

The degrees of Bachelor of Civil Engineering, Bachelor of Chemical Engineering, Bachelor of Electrical Engineering, and Bachelor of Mechanical Engineering, will be given to regular students who satisfactorily complete the work of the four-year ccurse scheduled under the respective departments, and who entered the University after September 1, 1907.

Candidates for the degrees specified above must spend their last year of study in residence in Cincinnati.

The technical degrees of Civil Engineer, Chemical Engineer, Electrical Engineer, and Mechanical Engineer, are given to those students of the Cooperative Course who complete satisfactorily the work scheduled under the respective departments. Candidates for the technical degrees in the Cooperative Course must spend the entire five years of study at the University of Cincinnati.

FEES IN THE COLLEGE OF ENGINEERING.

All fees must be paid in *advance* to the Clerk of the Board of Directors during the days of registration. If fees are not paid promptly, the Dean is authorized to exclude students from attendance upon their classes. *No University fees are refunded.*

Library Fee. All students must pay a library fee of five dollars per year at the opening of the session.

Tuition. All regular four year students in the College of Engineering are charged a tuition fee of $75.00 per year, payable in installments of $37.50 per semester in advance during registration days. If not paid during registration days, but if paid within the two weeks succeeding the last registration day,

the fee is $45.00 per semester. If not paid as above, but if paid within the following two weeks the fee is $50.00 per semester. If not paid within four weeks after the last registration day, further attendance upon classes will be refused.

All regular Co-operative students (five year course) are charged a tuition fee of $50.00 per year, payable in installments of $25.00 per semester in advance during registration days. If not paid during registration days, but if paid within the two weeks succeeding the last registration day, the fee is $32.50 per semester. If not paid as above, but if paid within the following two weeks the fee is $37.50 per semester and if not paid within four weeks after the last registration day, further attendance upon classes will be refused. (Passed by the Board of Directors, June 16, 1910.)

Special students are charged tuition at the rate of three dollars a credit hour, in advance. A credit hour is one hour's work a week carried through a semester or half year. For instance, the tuition for a three-hour course would be nine dollars a semester; for a five-hour course, fifteen dollars, etc.

Students in the College of Liberal Arts who are residents of the city of Cincinnati and elect any work whatsoever in the College of Engineering, are charged the full tuition fee of thirty-seven dollars and fifty cents per semester.

Laboratory Fees :

Chemistry Laboratory...	$15 00	per semester in advance.
Metallurgy Laboratory...	7 50	" "
Physics Laboratory.....	10 00	" "
Physics Course of 1 Laboratory period per week	5 00	" "
Engineering Laboratory Regular Students.....	5 00	per period per week per semester in advance.
Engineering Laboratory Cooperative Students	2 50	per period per alternate week per semester in advance.
Cement Laboratory.....	5 00	per semester in advance.
Geology Laboratory.....	5 00	" "
Drawing	1 00	" "

A deposit of $15.00 is required at the beginning of the freshman year of all students in the College of Engineering to insure the University against breakage in the Chemistry Laboratory.

A student who elects a laboratory course shall not be permitted to enter such a course until he presents to the instructor in charge a receipt for the payment of his laboratory fee.

Diploma Fee. Graduates of the College of Engineering are charged a diploma fee of five dollars. This fee must be paid at least two weeks before the day of conferring the degree.

Special Examinations. A fee of one dollar will be charged for each supplemental examination for the removal of conditions. This fee must be paid even though the condition is removed without a supplemental examination. A fee of five dollars will be charged for entrance examinations on days other than those specified in the calendar.

Late Registration Fee. Students who apply for registration or submit schedules of study on days other than those designated, will be required to pay a fee of one dollar.

Summer Course. A fee of ten dollars will be charged for the use of instruments in the summer courses.

CO-OPERATIVE ENGINEERING COURSE.

Plan of Instruction.

The College of Engineering offers two sets of courses, the four-year theoretical courses*, similar to those of other engineering colleges, and the five-year co-operative courses, a description of which follows:

The Co-operative courses are planned to combine and coordinate theory and practice. The theory is taught in the University, and the practice is obtained at the manufacturing plants of the city. Students in this course work alternate weeks at the University and at commercial shops. The classes are divided into two sections which alternate with each other by weeks, so that when one section is at the University, the other is at the shops. The length of the course is five years, the alternation being carried on eleven months of the year. The summer field work in Civil Engineering is full-time with coordination. Each student has a two weeks' vacation during the summer, and a week's vacation at Christmas.

The practical work at the shop is as carefully planned as the theoretical work at the University. In Mechanical, Electrical and Metallurgical Engineering the students follow, as nearly as possible, the path of the articles manufactured from the raw material to the finished product. In Civil Engineering the students work with structural iron companies, ferro-concrete companies and railroads.

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*Four year courses are offered in Civil Engineering, Electrical Engineering, Chemical Engineering and Mechanical Engineering.

Students are paid for their services while at the shops on the following scale of wages:

For the first period	10	cents	per	hour.
For the second period	11	"	"	"
For the third period	12	"	"	"
For the fourth period	13	"	"	"
For the fifth period	14	"	"	"
For the sixth period	15	"	"	"
For the seventh period	16	"	"	"
For the eighth period	17	"	"	"
For the ninth period	18	"	"	"
For the tenth period	19	"	"	"

A period is approximately 990 hours.

The University expenses for tuition and laboratory fees are about as follows:

First year	$100.00
Second year	90.00
Third year	75.00
Fourth year	75.00
Fifth year	75.00
Total	$415.00

To the first year should be added a deposit of $15.00 to insure the University against loss by breakage. This deposit will be returned at the end of the year after deductions have been made for breakage.

Students desiring to enter the co-operative course are requested to begin work in the shops on or about the first of July preceding their entrance to the University. Their admission to the University in September is in a measure dependent upon the character of work they do during this probationary period from July 1st until the College opens.

SHOP WORK.

In all cases the Dean of the Engineering College and the Professor of Civil, Electrical, Mechanical, or Metallurgical Engineering, as the case may be, confer with the manufacturers in planning the course of shop work, so that the students get a logically and carefully arranged shop training. The work of the shops is co-ordinated with the work of the University by a special set of teachers called co-ordinators.

The shop co-ordinator is a college graduate acquainted with shop practice. He spends every morning at the University and every afternoon in the shops. His function is to make a direct weekly co-ordination of the work of the shop with the theory of the University. One afternoon, for example, he may be at the shops of a local manufacturing company, where he will observe

the student apprentices at work. He will know what they are turning out, their speeds, their feeds and cuts, the angle of the tool, how the batch of work is ticketed, how the work is set up, the power drive, everything important in connection with the operation. The next week these young men will be grouped together with their classmates for two periods in class, when he will explain the functions of the particular articles, on which the students were working, in the machine which the local manufacturing company builds. He will take up all questions of speeds, feeds, cuts, accuracy, etc. Figuratively speaking, he will take from the student apprentices the blinders which would restrict their vision except for this explanatory work. The ticketing of the batch of work is gone into, and the system of routing is explained. Ultimately all problems of shop organization, shop accounting, cost keeping, shop planning, power transmission, heating, lighting, etc., are discussed during the course.

In conjunction with this, a card system is employed by means of which everything the student does in the shop that exemplifies a theory taught in the University, is called in detail to the attention of the teacher of theory, so that when the student comes to that particular theory, the exemplifications of which he has had in his practical work in the shop are called to his attention. It will be seen, then, that out of the student's own experience is drawn much of his course in mechanism, thermodynamics, machine design, strength of materials, shop economics, etc.

COURSES OFFERED.

Co-operative courses are given in

Civil Engineering.
Electrical Engineering.
Mechanical Engineering.
Metallurgical Engineering.

The number of places in each course is limited. Applications for positions in the co-operative course should be made to the Dean of the College of Engineering, and should be accompanied by a statement of the applicant's scholarship record, together with a statement of any practical shop work he may have had.

The laboratories of the Engineering College have been carefully equipped to meet the demands of modern industrial conditions and to furnish the student with the best facilities for the exemplification of theory and for scientific investigation. A new engineering building to cost $300,000.00 and a new power plant to cost $150,000.00, are now being erected, and will be

ready for occupancy in September, 1911. These buildings will be thoroughly equipped in every particular, and will offer unexcelled opportunities for engineering instruction.

METALLURGICAL ENGINEERING.

This course is offered for the first time in 1910-11. The first year's work is precisely the same as in Mechanical Engineering. The subsequent instruction will be published in the next Announcement.

Civil Engineering—Cooperative Plan.

COURSES REQUIRED FOR THE DEGREE OF C. E.

SUBJECT.	COURSE.	Exercises Per Alternate Week. I Sem.	II Sem.
First Year.			
Trigonometry and Algebra	Math. 1	6	
Analytical Geometry	Math. 1		6
Chemistry	Ch. E. 1a, 3b,	5	5
Chemistry Laboratory	Ch. E. 2a, 4b	4	4
Descriptive Geometry	C. E. 1	5	5
Elements of Engineering		1	1
Co-ordination		2	2
History		2	2
Second Year.			
Calculus	Math. 5	6	6
Physics	Physics 1a, 21b	6	6
Physics Laboratory	Physics, 2a, 22b	3	3
Metallurgy	Ch. E. 25a	4	
Metallurgy Laboratory		2	
Cement, Theory and Lab	C. E. 5		6
Elements of Engineering		1	1
Co-ordination		2	2
History		2	2
Third Year.			
Strength of Materials	Ap. Math. 2		6
Roofs and Bridges	C. E. 9	5	
Railroad Construction	C. E. 10	5	
Railroad Surveying	C. E. 11		5
Geology	Geol. 1, 2	5	5
Elements of Engineering		1	1
Co-ordination		2	2
History		2	2
Economics	Economics 1	3	3
Fourth Year.			
Astronomy	Astronomy 2a, 3b	2	2
Structural Design	C. E. 14	4	4
Mechanical Laboratory	M. E. 18	2	2
Sanitary Biology	Biol. 9	2	2
Modern Language	German or French	3	3
Practical Problems	C. E. 17	2	2
Co-ordination		2	2
History		2	2
Economics		3	3

SUBJECT.	COURSE.	Exercises Per Alternate Week. I Sem.	II Sem.
Fifth Year.			
Bridges, Higher Structures	C. E. 15	3	3
Design	C. E. 14	5	5
Hydraulics	C. E. 13	4	4
Modern Languages	German or French	5	5
Co-ordination		2	2
History		2	2
Thesis		5	5

COURSES IN DETAIL.

CIVIL ENGINEERING.

(The Thoms Professorship.)

Professor Schneider, Assistant Professor Ayer, Mr. Root, Mr. Kranz.

1. **Descriptive Geometry.**—Projection of lines, planes, and solids, with practical applications. Isometric and perspective drawing. Assistant Professor Ayer, Mr. Root, Mr. Kranz.

2. **Freehand Drawing.** — Freehand lettering. Freehand sketches from models of engineering details. Drawing from memory. Mr. Root.

3. **Land Surveying.**—The theory and use of the compass, transit and level. The theory of land surveying with the solution of practical problems. The surveying of areas in city and country, and computation of the same, together with the drawing of maps and profiles.
Assistant Professor Ayer, Mr. Root.

4. **Construction Drawing.**—Stereotomy, dams, piers, culverts, trestles. Practical applications of descriptive geometry to sewer details, pipe intersections, arch construction, etc. Mr. Root.

5. **Cement.**—Theory and manufacture. Standard laboratory tests on cement, mortar and concrete.
Assistant Professor Ayer and Mr. Kranz.

7. **Topographic Surveying.**—The testing and adjustment of transit and level. The theory of stadia and hydrographic work, together with the solving of practical problems. Maps.
Assistant Professor Ayer, Mr. Root.

8. **Graphic Statics.**—The graphic analysis of stresses in framed structures under static and moving loads.
Assistant Professor Ayer.

9. **Roofs and Bridges.**—The analytical investigation of the stresses in framed structures. Assistant Professor Ayer.

C. E. 8 and 9 given together.

10. **Railroad Construction.**—The construction of subgrade, roadbed, trestles, tunnels and drains; maintenance of way and organization. Rolling stock. Mr. Root.

11. **Railroad Surveying.**—The reconnaissance, preliminary and location methods, with theory of tangents, curves, cross-overs and turnouts. Field work exemplifying practical application of theory. Mr. Root.

13. **Hydraulics.**—Theory of the flow of water through orifices, tubes, pipes and channels. River and sewer hydraulics and naval hydromechanics. Mr. Root.

14. **Bridge Design.**—Contracts and office work. Shops and shop practice. Specifications. Design of roof truss, plate girder, and pin connected span, including the important details. Inspection trips. Assistant Professor Ayer.

15. **Bridges.**—Cantilever, draw, suspension and arched structures. Assistant Professor Ayer.

16. **Materials of Construction.**—Investigation of the materials of construction, with special reference to inspection and testing. Professor Schneider.

17. **Practical Problems.**—The applications of fundamental principles to practical problems. Professor Schneider.

18. **Sanitary Engineering.**—Sewage collection and disposal. Sewer details. Water purification and supply. Design of sewerage and water supply systems. Sanitary Biology. Mr. Root.

Mechanical Engineering—Cooperative Plan.

COURSES REQUIRED FOR THE DEGREE OF M. E.

SUBJECT.	COURSE.	Exercises Per Alternate Week. I Sem.	II Sem.
First Year.			
Algebra & Trigonometry.. Analytical Geometry.....	Math. 1.....	6	6
General Inorganic Chemistry	Ch. E. 1a, 3b.....	5	5
General Inorganic Chemistry Laboratory	Ch. E. 2a, 4b.....	4	4
Machine Drawing	M. E. 1.....	5	
Descriptive Geometry	M. E. 3.....		5
Elements of Engineering.....		1	1
Co-ordination		2	2
History		2	2

First Summer Term.

Problem work in Industrial Chemistry and Metallurgy.

Second Year.			
Differential and Integral Calculus	Math 5.....	6	6
Physics (General).....	Physics 1a, 21b....	6	6
Experimental Physics.....	Physics 2a, 22b....	3	3
Metallurgy	Ch. E. 25a.....	4	
Metallurgy Laboratory		2	
Mechanism	M. E. 6.....		4
Drawing and Sketching.....	M. E. 7.....		2
Elements of Engineering.....		1	1
Co-ordination		2	2
History		2	2

Second Summer Term.

Surveying and Electrical Fundamentals.

Third Year.			
Physics	Physics 5.....	6	
Physics Laboratory	Physics 13.....		4
English	English	3	3
Steam Engineering	M. E. 11.....	5	5
Strength of Materials	Ap. Math. 2.....		6
Mechanical Laboratory	M. E. 18.....	2	2
Elements of Engineering.....		1	1
Co-ordination		2	2
History		2	2

Third Summer Term.

Tests of Machine Tools, Cutting Speeds, Steam, Gas and Refrigerating Machinery.

SUBJECT.	COURSE.	Exercises Per Alternate Week. I Sem.	II Sem.
Fourth Year.			
Mechanics	Ap. Math. 1, 3	5	3
English	English	3	3
Modern Language	French or German		5
Machine Design	M. E. 13	5	
Machine Design	M. E. 14, 19	3	3
Electrical Machinery	E. E. 1, 9	5	5
Electrical Laboratory	E. E. 5	2	2
Co-ordination		2	2
History		2	2

Fourth Summer Term.

Problem work in Machine Tools, Steam and Gas Machinery. Thesis.

Fifth Year.			
Modern Language	German or French	5	5
Economics		3	3
Sanitary Biology		2	2
Thermodynamics or Hydraulic Machinery	M. E. 21 / M. E. 27		5
Engineering Design or Problem Work in Shop Machinery	M. E. 28 / M. E. 15	2	
Gas Engineering	M. E. 23	5	
Co-ordination		2	2
History		2	2
Thesis			5

COURSES IN DETAIL.

MECHANICAL ENGINEERING.

Professor Faig, Assistant Professor Jenkins, Mr. Brown, Mr. Dorsey.

1. **Machine Drawing.**—Details of standard machine parts, bolts, nuts, screws, etc. Methods of detailing pulleys, gears, shafting and machine elements. Mr. Dorsey.

2. **Elements of Steam Engineering.**—Boilers, pipe fittings, valves, gauges, pumps, injectors, heaters, damper regulators, pipe coverings, engine details, lubricators, indicators and cards, brakes, governors and condensers. Mr. Brown.

3. **Descriptive Geometry.**—Projections of lines, planes, and solids, with practical applications. Isometric and perspective drawing. Freehand drawing. Mr. Dorsey.

6. **Mechanism.**—A study of the transmission and modification of motion by means of toothed wheels, cams, screws, links and wrapping connectors. Trains of mechanism.

Assistant Professor Jenkins.

7. Drawing and Sketching.—Graphic representation of various methods of transmitting and modifying motions by means of mechanical devices. Cams, links, and toothed wheels.
Mr. Brown, Mr. Dorsey.

9. Machine Drawing.—Detail drawings from measurements of machines. Assembled drawings of machines. Mr. Dorsey.

11. Steam Engineering.—Elements and Economy of simple and complete steam plants. Fuels, combustion, boilers, furnaces, stokers, smoke prevention, superheaters, coal and ash handling, chimneys, mechanical draft, steam engines, turbines, condensers.

12. Machine Design.—Analysis of forces in machines by graphics; design of back gears and automatic feeds.
Professor Faig.

13. Machine Design.—The theory of machine design, with analysis of all stresses involved. Fastenings, links, shafting and transmission machinery, including couplings, clutches, belting and toothed gears. Design of frames for engines, shops machines and cranes. Assistant Professor Jenkins.

14. Machine Design.—Working drawings of clutches, couplings, and other power transmission machinery.
Assistant Professor Jenkins.

15. Machine Shop Tools.—A study of the evolution of machine shop tools, with calculations of stresses in frames and moving parts, and special attention to the high speeds possible with modern tool steel. Experiments on cutting speeds in laboratory.
Assistant Professor Jenkins, Mr. Brown.

17. Graphics of Mechanism.—A study of the forces involved in mechanisms, their direction and magnitude, and of the mechanical efficiencies of various combinations of elements.
Assistant Professor Jenkins.

18. Engineering Laboratory.—Tensile, compressive, and torsional tests of materials of construction, including iron, brass, steel, wood, brick, stone, leather belting, and concrete. Standardization of instruments; indicating; brake tests of steam engines, hot-air engines, and gas engines. Friction tests.
Mr. Brown, Mr. Dorsey.

19. Machine Design.—Assembled and detail drawings of a complete machine, with written description and calculations of parts. Assistant Professor Jenkins.

21. Thermodynamics.—Elastic media as heat carriers. Thermodynamics of gases, saturated vapors, and superheated steam. Temperature-entropy diagrams of the various cycles. Application of thermodynamics to steam and gas engines, air compressors and refrigerating machines. Professor Faig.

22. **Valve Gears.**—Analytical and graphical analysis of valve mechanisms. Methods of laying out the various forms of valve gears, link motions and reversing gears for the economical distribution of steam. Design of valves and governors for prime movers. Professor Faig.

23. **Gas Engineering.**—Gas and oil engines. Power and efficiency. Frictional and valvular losses. Design, based upon an assumed card. Gas characteristics. Producer gas equipments and gas distribution. Professor Faig.

24. **Steam Turbines.**—Historical development. Modern types. Critical study of the turbine as a heat motor and as a machine. Comparison with the most approved types of reciprocating engines. Professor Faig.

25. **Experimental Engineering.**—Characteristics and economy of heat motors and their variation with conditions of operation. Analysis and full accounting of power losses.
Professor Faig and Mr. Brown.

26. **Hoisting Machinery.**—Cranes and lifts. Machine and structural features. Analysis of stresses involved.
Assistant Professor Jenkins.

27. **Hydraulic Machinery.**—Motors, tools, lifts. High pressure control. Pumps, accumulators, and the accessories of transmission. Assistant Professor Jenkins.

28. **Engineering Design.**—A definite problem in the design of a prime mover, auxiliary or plant. Free reference to machines and plants in the city bearing on the problem and to the library.
Professor Faig.

29. **Power Plants.**—Lectures on the mechanical engineering of power plants. (This course must be accompanied by E. E. 11.) Professor Faig.

30. **Heating and Ventilation.**—Methods of heating buildings by hot air, steam, and water. Motors, blowers, and mechanisms used in ventilating. Professor Faig.

31. **Compressed Air and Refrigeration.**—Air compressors, motors, and tools. Air storage and power transmission. Refrigeration. Professor Faig.

39. **Thesis.**—Modified research or original design. Hours to be arranged.
Professor Faig, Assistant Professor Jenkins, Mr. Brown, Mr. Dorsey.

THE SUMMER TERMS.

Each summer term begins immediately after Commencement in June and continues for twelve weeks, students working alternate weeks.

Electrical Engineering—Cooperative Plan.

COURSES REQUIRED FOR THE DEGREE OF E. E.

SUBJECT.	COURSE.	Exercises Per Alternate Week. I Sem.	II Sem.
First Year.			
Algebra & Trigonometry.. Analytical Geometry	Math. 1.....	6	6
Chemistry	Ch. E. 1a, 3b.....	5	5
Chemistry Laboratory	Ch. E. 2a, 4b.....	4	4
Machine Drawing	M. E. 1.....	5	
Descriptive Geometry	M. E. 3.....		5
Elements of Engineering.....		1	1
Co-ordination		2	2
History		2	2
First Summer Term.			
Problem work in Industrial Chemistry and Metallurgy.			
Second Year.			
Calculus	Math. 5.....	6	6
Physics Lectures	Phys. 1a, 21b.....	6	6
Physics Laboratory	Phys. 2a, 22b.....	3	3
Metallurgy	Ch. E. 25.....	6	
Mechanism	M. E. 6.....		4
Drawing and Sketching	M. E. 9.....		2
Elements of Engineering.....		1	1
Co-ordination		2	2
History		2	2
Second Summer Term.			
Surveying and Electrical Fundamentals.			
Third Year.			
Physics	Phys. 5.....	6	
Physics Laboratory	Phys. 13.....		4
English		3	3
Steam Engineering	M. E. 11.....	5	5
Mechanical Laboratory	M. E. 18.....	2	2
Strength of Materials	Ap. Math. 2.....		6
Elements of Engineering.....		1	1
Co-ordination		2	2
History		2	2
Third Summer Term.			
Tests of Machine Tools, Cutting Speeds, Steam, Gas and Refrigerating Machinery.			

SUBJECT.	COURSE.	Exercises Per Alternate Week. I Sem.	II Sem.
Fourth Year.			
Electrical Machinery	E. E. 1, 9	5	5
Electrical Laboratory	E. E. 5	2	2
Mechanics	Ap. Math. 1a, 3b	5	3
Machine Design	M. E. 13	5	
Machine Drawing and Shop Inspection	M. E. 14, 19	3	3
English		3	3
History		2	2
Co-ordination		2	2
Modern Language	German or French		5

Fourth Summer Term.

Problem work in Electrical Machinery. Thesis.

Fifth Year.			
Alternating Current Machinery	E. E. 3	5	5
Electrical Laboratory and Visits	E. E. 7	2	2
Electrical Design	E. E. 2	2	1
Modern Language		5	5
Gas Engineering	M. E. 23	5	
Hydraulic Machinery	M. E. 27		5
Co-ordination		2	2
History		2	2
Thesis	E. E. 8	1	2

COURSES IN DETAIL.

ELECTRICAL ENGINEERING.

Professor Taylor and Mr. Wylie.

1. **Direct Current Machinery.**—Theory of magnetic flux; fundamental principles of direct current machinery; characteristics, construction and operation of dynamos, motors and instruments.

Professor Taylor.

9. **Alternating Currents.**—Alternating electromotive force and current; resistance, inductance, and capacity in alternating current circuits, graphical and analytical treatment; theory of the alternating current generator; polyphase currents.

Professor Taylor.

5. **Electrical Engineering, Laboratory.**—Use and care of electrical instruments; characteristics of electric circuits; study of magnetic properties of iron and steel; operation of direct current dynamos and motors, with tests for characteristics, efficiency and losses.

14. Methods of Power Transmission.—A critical examination of the methods of transmitting power moderate and long distances for industrial use. The various mechanical methods are compared with the electrical methods, and the advantages and disadvantages of each for particular purposes are considered from commercial and economic standpoints.

Mr. Wylie.

2. Dynamo Design.—Principles, methods and data employed in the design of direct and alternating current machinery. Design of direct current dynamo or motor and transformer or induction motor with specifications and working drawings.

Professor Taylor.

3. Alternating Current Machinery.—Theory, characteristics, and performance of alternators, synchronous motors, rotary converters, transformers, frequency converters, induction motors, and commutator motors. Analytical and graphical treatment of transmission circuits, containing resistance and inductance; distributed capacity; distortion of wave shape; effect of higher harmonics; efficiency of polyphase systems. Professor Taylor.

4. Electric Power Transmission.—Electric conductors; distributing systems; interior wiring; long-distance transmission; economy in the design of circuits; line construction.

Mr. Wylie.

6. Electric Railways.—The railway motor; controllers; rolling stock and equipment; train performance; power distribution; interurban electric railways. Mr. Wylie.

7. Advanced Electrical Engineering, Laboratory. — Measurement of power in alternating current circuits; experimental study of characteristics of alternators, transformers; single and polyphase; induction motors; rotary converters, etc. Calibration of electrical instruments; cable testing; photometry of incandescent and arc lamps, with and without reflectors and enclosing globes.

Professor Taylor and Mr. Wylie.

10. Illumination.—Principles of photometry; light sources—flame illuminants, electric incandescent lamps, electric arc lamps; shades and reflectors; domestic illumination;. lighting of large interiors; street lighting; decorative illumination.

Professor Taylor.

11. Electric Power Stations.—The central power station, location and general arrangement; selection of generating units; switch gear; station wiring; storage battery. The substation.

Mr. Wylie.

This course must be accompanied by M. E. 29.

12. Elements of Electrical Engineering.—A general course treating of direct and alternating current machinery and apparatus; power transmission and distribution; electric railway applications. Mr. Wylie.

This course is similar to Courses 1 and 9, but is adapted especially to the needs of civil and chemical engineers.

13. Telegraphy and Telephony.—Principles of electric signaling; modern telegraphic methods; theory of telephone; instruments; switching methods; line construction and testing. Mr. Wylie.

8. Thesis.—Experimental study of electrical machines or instruments; design of special electrical apparatus; critical study and test of power plant; special electrical investigation. Professor Taylor.

15. Electrical Design (Advanced).—A continuation of Course 2, attention being given especially to the construction of alternating current machinery and installations. Professor Taylor.

16. Alternating Currents (Advanced).—This course deals with the more complex problems in alternating current theory as applied to inductive machinery and long-distance power transmission. Professor Taylor.

17. Electrical Research Laboratory.—The work in this course is selected for each student, and deals with the problems connected with his major work. Professor Taylor.

CHEMICAL ENGINEERING.

Professor Jones, Associate Professor Fry, Assistant Professor Porter, Assistant Professor Goettsch, Instructor Fred Wilbert Upson, Ph. D., Mr. Hecker, Mr. von Schlichten.

FRESHMAN YEAR.

1a. General Inorganic Chemistry.—The Non-metals. It is the object of this course to give a definite idea of the fundamental laws of general chemistry and, in a connected way, to furnish a survey of the important facts concerning the chemistry of the non-metals and their compounds. The subject-matter discussed in the combined lectures, recitations, and quizzes is illustrated amply by experiments, charts, and specimens. Three exercises a week during the first semester. Course 2a forms an integral part of, and must accompany Course 1a.

Associate Professor Fry, Dr. Upson, Mr. Smith, Mr. Hecker, Mr. von Schlichten.

2a. General Inorganic Chemistry, Laboratory.—Two laboratory exercises per week during the first semester. Each student performs a series of experiments complementary to the subject-matter of Course 1a.

Associate Professor Fry, Dr. Upson, Mr. Smith,
Mr. Hecker, Mr. von Schlichten.

3b. General Inorganic Chemistry.—The Metals. This course is a continuation of Course 1a and considers chiefly the properties of the metals and their compounds. Three hours per week during the second semester. Students who have completed Courses 1a and 2a are eligible for this course. It must be accompanied by Course 4b.

Associate Professor Fry, Dr. Upson, Mr. Smith,
Mr. Hecker, Mr. von Schlichten.

4b. General Inorganic Chemistry, Laboratory.—Two laboratory exercises per week during the second semester. A series of experiments complementary to the subject-matter of Course 3b.

Associate Professor Fry, Dr. Upson, Mr. Smith,
Mr. Hecker, Mr. von Schlichten.

SOPHOMORE YEAR.

5a. Qualitative Analysis.—Lectures and recitations on the principles and practice of qualitative analysis. Considerable emphasis is laid upon the application of the laws of chemical equilibrium and the theories of solution to the practical problems of the analyst. Three exercises a week during the first semester.

Professor Jones.

Prerequisite: Courses 3b and 4b.

6. Qualitative Analysis, Laboratory.—This course must accompany Course 5a. During the first few weeks of the semester the student performs the most important tests used in the processes of analytical chemistry. The later work of the course will furnish abundant training in the qualitative examination of salts, minerals, alloys, etc. Two exercises a week during the first semester; two laboratory periods and one quiz period during the second semester. Professor Jones.

7b. Quantitative Analysis, Laboratory.—Three exercises a week during the second semester. An elementary course in gravimetric and volumetric analysis of chemicals, ores, minerals, alloys, etc., and in the calculations of analytical chemistry. A weekly conference is held, at which quantitative methods and stoichiometrical problems are discussed.

Assistant Professor Goettsch.

Prerequisite: Courses 5a and 6 (first semester).

JUNIOR YEAR.

8a. Elementary Organic Chemistry.—The course comprises quizzes and lectures which are experimental to a certain extent, and deals with the chief classes of organic compounds of both the aliphatic and the aromatic series. This course is arranged to meet the needs of those who intend to specialize in chemistry, in medicine, in biology, or in engineering, and serves as a general introduction for those who intend to go deeper into the study of organic chemistry. Two exercises a week during the first semester.

Prerequisite: Courses 3b and 4b.

9a. Organic Reactions and Preparations.—This is a course of laboratory practice, consisting of two exercises a week during the first semester, arranged to accompany the lectures of Course 8a. A number of simple organic substances are made with the view to furnishing, by the fewest illustrations possible, the largest variety of typical reactions and manipulations.

Prerequisite: Courses 3b and 4b.

12. Physical Chemistry.—Lectures and recitations. A general introductory course of three exercises a week throughout the year.

Prerequisite: Courses 5a, 6, and 7b.

13. Physical Chemistry, Laboratory.—Two exercises a week throughout the year, illustrating the general static and dynamic methods of physical and electro-chemistry. This course must be accompanied by Course 12. Chemical Engineers will take this course during the second semester only.

14a. Metallurgy.—Five periods a week during the first semester. The course embraces the study of fuels, refractories, ferrous and non-ferrous metallurgy, and practice in metallurgical calculations. Especial emphasis is laid upon foundry and steel works processes, and excursions are made to metallurgical establishments in Cincinnati and vicinity.

Assistant Professor Porter.

Prerequisite: Courses 5a and Physics 1.

17. Technical Analysis.—Two afternoons a week the first semester; three afternoons a week the second semester. The course covers the analysis of fuels, cement, ores, iron, steel, alloys, water, gas, fertilizers, soaps, foods, pigments, and other industrial products. Especial attention is directed to the rapid methods employed in industrial laboratories.

Assistant Professor Goettsch.

Prerequisite: Course 7b.

SENIOR YEAR.

15a. Assaying.—One afternoon a week during the first semester. The course consists in laboratory practice in the fire assay of ores and base metals for gold, silver, and lead.

Assistant Professor Porter.

Prerequisite: Course 7b.

16a. Technical Inorganic Chemistry.—Three periods a week during the first semester. Lectures and recitations upon important inorganic chemical industries. Especial attention is paid to plant equipment and costs. Assistant Professor Goettsch.

Prerequisite: Courses 5a and 6.

18b. Technical Organic Chemistry.—Three periods a week during the second semester. Lectures and recitations upon selected organic chemical industries. Especial attention is directed to plant equipment and costs.

Assistant Professor Goettsch.

Prerequisite: Courses 8a and 16a.

19a. Chemical Engineering, Laboratory.—Three afternoons a week during the first semester. The course consists in experiments on the heat treatment of metals, practice in metallography and pyrometry, and in the laboratory study of selected manufacturing operations. Collateral reading is required.

Assistant Professor Porter.

Prerequisite: Courses 7b, 14, and 17.

20. Advanced Organic Chemistry.—Lectures, embracing a systematic study of the principles and practice of organic chemistry, and treating of the modes of formation, properties, and constitution of typical members of the most important classes of organic compounds. Three exercises a week throughout the year.

Professor Jones.

Prerequisite: Courses 5a, 6, 7b, 8a, 9a, and a reading knowledge of German and French.

21. Advanced Organic Chemistry, Laboratory.—Practice in the preparation of a number of typical organic compounds. Three exercises a week throughout the year.

Professor Jones.

Chemical Engineers who are planning to go into industrial work involving problems in organic chemistry, are advised to take Course 20 and two hours of Course 21 as electives during their senior year. Those who are expecting to pursue work along inorganic lines may elect such courses as Advanced Inorganic Chemistry (Courses 10b and 11b), or Assaying (Course 15a), or courses in geology and mineralogy offered in the department of Geology. Economics, Course 1, is recommended as an elective.

22b. Technical Chemistry, Laboratory.—A laboratory course intended to supplement the lectures on technical chemistry. It is not intended that the course should consist of the preparation of a prescribed list of chemical compounds, but rather of a number of independent problems considering the technical manufacture of important inorganic and organic chemicals. The student will be expected to read the literature concerning his individual problems and then himself propose to the instructor, for criticism, the method of manufacture and the details of the process to be employed. Under the guidance of the instructor, the method agreed upon will be tested in the laboratory, where the appliances of the factory will be utilized whenever possible. The work will include the testing of raw material and finished product; the preparation of cost sheets, showing prices of material used and time spent; a consideration of the possibility of utilizing any by-products; and, in some cases, the design of a factory calculated for a certain output.

Assistant Professor Goettsch.

23b. Thesis, Laboratory.—Four laboratory periods a week during the second semester, devoted to the solution of some problem in technical chemistry or metallurgy, including collateral reading and practice in bibliography. This course is designed for senior students who are required to prepare a thesis for graduation.

Professor Jones, Associate Professor Fry.
Assistant Professor Porter, Assistant Professor Goettsch.

10b. Advanced Inorganic Chemistry.—Three exercises a week during the second semester. In this course the less familiar elements and compounds and the more recent theories of inorganic chemistry are discussed. Professor Jones.

Prerequisite: Courses 5a, 6, 7b; omitted in 1909-10.

11b. Inorganic Preparations.—Three laboratory exercises a week during the second semester. Preparation of specimens of inorganic compounds. ————.

Prerequisite: Course 7b; omitted in 1909-10.

25b. Engineering Metallurgy.—Four lectures and two laboratory periods on alternate weeks during the second semester. This course is designed particularly to meet the needs of mechanical, electrical, and civil engineers. In the lectures the combustion of fuels and the properties and uses of iron and steel receive chief emphasis, while the laboratory work affords practice in pyrometry and embraces a carefully prepared series of experiments on the mechanical and heat treatment of the metals.

Assistant Professor Porter.

Prerequisite: Courses 3b and 4b.

29b. Practical Photography.—This course is intended primarily to furnish the student a working knowledge of fundamental photographic processes. Enough theory is included to insure an intelligent comprehension of the various processes used. Laboratory work in the exposure and development of plates predominates, followed by a study of various printing methods. Some time is devoted to copying, enlarging, and the making of lantern slides. *Second semester.*

Assistant Professor Goettsch.

26. Summer Work (Sophomore).—A memoir, illustrated by drawings, descriptive of some subject of technical interest. An account of work done during the summer in an industrial laboratory or works will, if satisfactory, be accepted as an equivalent of the memoir.

Summer work reports and memoirs must be handed in by November 1st.

27. Summer Work (Junior).—A memoir, illustrated by drawings, descriptive of some manufacturing industry. The memoir should be accompanied by a report of work performed in the laboratory or works.

Summer work reports and memoirs must be handed in by November 1st.

GENERAL COURSES.

APPLIED MATHEMATICS.

Professor Slocum and Mr. Kindle.

1. Technical Mechanics.—Morley, *Mechanics for Engineers;* Sanborn, *Mechanics Problems.* A course in applied mechanics, comprising kinematics, kinetics, and statics, with technical applications.

Mr. Kindle.

2. Strength of Materials.—Slocum and Hancock, *Text-Book on the Strength of Materials;* Shepard, *Problems in the Strength of Materials.* An introductory course in the mechanics of materials, including the fundamental relations between stress and deformation, tensile, compressive and shearing stresses, Hooke's law and Young's modulus. Poisson's ratio, modulus of rigidity, theory of beams, elastic curve, shear and bending moment diagrams, columns, torsion, combined bending and torsion, curved pieces, elements of graphical statics, arches and arched ribs, retaining-walls and foundations, with numerous practical applications. Professor Slocum.

3. Dynamics.—Maurer, *Technical Mechanics.* A continuation of Course 1, relating chiefly to the dynamics of rotation, with applications to the calculation and design of governors and fly-wheels, balancing of engines, kinetic reactions and gyroscopic forces, critical velocity of shafts, friction and lubrication, etc. Given with Course 1.

Professor Slocum.

4a. Theoretical Mechanics.—A modern treatment of analytical mechanics, intended especially for advanced students in engineering and physics. The course is given by lectures, supplemented by references to standard texts.

Professor Slocum.

4b. The Mathematical Theory of Elasticity.—A course in the mechanics of elastic bodies, supplementary to Course 4a. The course is given mainly by lectures, supplemented by references to the works of Williamson, Webster, and A. E. H. Love.

Professor Slocum.

6a. Theory of Errors and Method of Least Squares.—Wright and Hayford, *Adjustment of Observations.* The general theory of the adjustment of observations, with applications to triangulation and the derivation of empirical formulas from experimental data. Professor Slocum.

5b. Fourier's Series and Spherical Harmonics.—Byerly, *Fourier's Series and Spherical Harmonics.* This course is intended as an introduction to mathematical physics. After a preliminary study of certain trigonometric series, Fourier's theorem for the development of a function into a trigonometric series is derived, and the limitations of its validity investigated. This is followed by the study of Lagrange's, Laplace's, and Lame's functions, with applications to problems in heat, electricity, potential, elasticity, etc. Professor Slocum.

7. Seminary.—Theoretical and experimental research in some special topic of the mechanics of rigid, elastic, fluid, or gaseous bodies. Results to be summarized in a form suitable for publication. Credit according to work done. Hours by special arrangement. Professor Slocum.

ASTRONOMY.

Professor Porter.

2a. General Astronomy.—Text-book: Young's *General Astronomy.* Professor Porter.

3b. General Astronomy.—Text-book: Young's *General Astronomy.* Professor Porter.

For courses 2a and 3b, Trigonometry, Analytical Geometry and Calculus will be required. Course 3b is open only to those who have taken Course 2a.

4a. Celestial Mechanics.—Investigation of the fundamental equations of motion and of the formulae for determining the positions of bodies revolving about the sun. Text-book: Watson's *Theoretical Astronomy.* Professor Porter.

5b. Computation of a parabolic orbit from three observations, and of an elliptic orbit with perturbations. Text-book: Watson's *Theoretical Astronomy.* Professor Porter.

Courses 4a and 5b are given at the Observatory.

BIOLOGY.

Professor Guyer, Associate Professor Benedict.

9. Sanitary Biology.—Lectures on the biological principles involved in sanitary engineering, designed to enable the engineer to solve local problems in sanitation and to appreciate the significance of specialists' reports.

Associate Professor Benedict.

Course 9 is open to all students.

ECONOMICS.

Professor Hicks.

(The Sinton Professorship.)

1. Economics.—This course is intended to give the student a general view of the subject. It includes the study of (1) the elements of economics: wealth, value, price, competition, monopolization, production, and distribution; (2) the evolution of industry from local organization and control during the middle ages, through nationalism and the industrial revolution, to modern conditions; and (3) the leading economic problems of to-day. Professor Hicks.

ENGLISH.

Professor Chandler, Associate Professor Miller, Assistant Professor McVea, Assistant Professor Van Wye, Mr. Park.

1. English Composition.—The purpose of this course is to present in a general survey the elementary principles of English composition and to enforce them by practice in writing. A certain amount of reading in English literature is required.

Mr. Park.

2. **Advanced English Composition.**—The first semester of this course is devoted to argumentation.

Associate Professor Miller, Assistant Professor McVea, Assistant Professor Van Wye.

GEOLOGY AND GEOGRAPHY.

Professor Fenneman and Mr. Carman.

*1. **Physiography.**—During the first semester this course is identical with Course 2 (General Geology), embracing a full treatment of the origin and classification of topographic forms. The second semester's work embraces the Atmosphere, the Ocean, and a study of the United States by physiographic provinces. Open to all above freshman year. Professor Fenneman.

General Geology.—First semester, dynamic, structural, and physiographic geology, being identical with Course 1; second semester, elementary historical and economic geology. By special agreement Course 5b (Field Geology) may be taken in connection with this course, being substituted for the laboratory work of the second semester. Open to all above freshman year. Professor Fenneman.

5b. **Field Geology and Survey Methods.**—The study and mapping of assigned areas in the vicinity of Cincinnati. Students work singly or in parties of two, and submit type-written reports with topographic and geologic maps. This course is open to those who have had Course 2 and may be taken in connection with the second half of that course. Hours arranged by agreement with each party. Mr. Carman.

6a. **Crystallography.—First half semester, a study of geometrical forms with laboratory study of crystal models; second half semester, optical principles with microscopic examination of crystals cut in definite orientation.

Professor Fenneman.

7b. **Mineralogy.—System of classification of minerals; laboratory study of specimens of all the more common species; determinative mineralogy and blowpipe analysis. This course is intended to follow Course 6a, which is prerequisite.

Professor Fenneman.

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*Students who have already obtained credit for less than five hours in Physiography or General Geology may register for less than five hours' work in Course 1 or 2.

**Course 2 is not prerequisite to Courses 6a and 7b, but these are not accepted as graduate courses for students making Geology a major, unless Course 2 or its equivalent has been taken.

9a. Historical Geology.—The rock formations of each geologic period, chiefly in North America, studied in historical order; their description, geographic distribution and explanation; physical conditions and events attending the formation of each as known from its character and fossils; life development and faunal migrations. Course 2 is prerequisite.

Mr. Carman.

GERMAN.

Professor Poll, Assistant Professor Lotspeich, Miss Schrader.

1. Elementary German.—Grammar, translation from German into English, and elementary exercises in translating into German. Assistant Professor Lotspeich and Miss Schrader.

2. German Prose and Poetry.—Reading at sight, grammar, composition and dictaton. Miss Schrader.

Course 2 is open to students who have passed in Course 1.

3. German Composition (Beginners' Course).—German grammar, conversation and practice in writing German.

Course 3 is open to students who have passed in Course 1. Courses 2 and 3 may be advantageously taken together.

40. Scientific German.—Rapid reading.

Course 40 is open to students who have passed in Course 1.

**HISTORY.

Professor Whitcomb, Mr. Dilworth.

50. Ancient History.—*First semester*, history of the Oriental nations, with especial emphasis upon institutions, arts, and life of the people. Professor Whitcomb.

Second semester, history of the Greeks and Romans; the development of Greek art and philosophy; Roman law and government. Mr. Dilworth.

MATHEMATICS.

Professor Hancock, Assistant Professor Moore, Mr. Kindle, Mr. Trimble.

1. Algebra—Trigonometry—Analytical Geometry.— Selected portions of Algebra and the elementary Theory of Equations. Wentworth, *College Algebra;* Ashton and Marsh, *College Algebra.* Trigonometry: Ashton and Marsh, *Trigonometry.*

**Under the Cooperative plan the course in history is given for the entire five years and includes, first, a series of lectures on the evolutional development of the earth from a geological and biological standpoint; secondly, a series of lectures on the political, social, economic and industrial development of the human race.

Analytical Geometry of Two Dimensions treated from the Cartesian standpoint. Briggs-Bôcher, *Analytic Geometry;* Nichols, *Analytic Geometry.*

Assistant Professor Moore, Mr. Trimble.

3b. Spherical Trigonometry.—Crockett, *Spherical Trigonometry.* Mr. Trimble.

5. Calculus, Differential and Integral.—Osborne, *Calculus.* Granville, *Calculus.*

Professor Hancock, Mr. Trimble, Mr. Kindle.

6a. Advanced Analytical Geometry of Two Dimensions.—C. Smith, *Conic Sections.* Lectures. Mr. Kindle.

Course 6a is open to those who have passed in Course 5.

7b. Analytical Geometry of Three Dimensions.—The plane, straight line and quadric surfaces; theory of surfaces and curves. C. Smith, *Solid Geometry.* Lectures. Mr. Kindle.

Course 7b is open to those who have passed in Coure 5.

15. Theory of Equations, Including Determinants.—Burnside and Panton, *Theory of Equations.* Lectures.

Assistant Professor Moore.

8a. Advanced Integral Calculus.—Byerly, *Integral Calculus.* Lectures. Professor Hancock.

9b. Differential Equations.—Forsyth, *Differential Equations.* Lectures. Professor Hancock.

PHYSICAL EDUCATION.

Mr. Brodbeck.

Physical Training for Men.—Two hours' work each week in the Gymnasium is prescribed for all members of the Freshman and Sophomore classes, except students who are giving a part of their time to professional studies (law, medicine, or theology). With them participation is voluntary. In addition to this, a course of lectures on hygiene, physical education, and first aid to the injured, one hour per week, is required of all freshmen.

A physical examination is required of each student of the two lower classes upon entrance and upon completion of the required work. Appointments for the examinations should be made with the Physical Director at the beginning of the first semester.

The work prescribed for these classes have been arranged with a view to securing three main objects: health and organic vigor, bodily control and efficiency, erect carriage and symmetrical development. The work will consist of free movements with and without hand apparatus, executed simultaneously by the whole class; progressive apparatus work in graded squads, under trained leaders; and gymnastic games.

Credit: One credit will be given for each semester's work.

Mr. Brodbeck.

PHYSICS.

Professor More, Associate Professor Ives, Assistant Professor Allen, Dr. Carter, Mr. Rieman, Mr. Lorenz.

1a. General Physics.—Lectures and recitations on heat and light, illustrated with experimental demonstrations.
Assistant Professor Allen.

21b. General Physics.—Lectures and recitations on electricity and magnetism, illustrated with experimental demonstrations. Assistant Professor Allen.

2a. Experimental Physics.—Laboratory work arranged to accompany Course 1a.
Associate Professor Ives, Dr. Carter, Mr. Lorenz.

22b. Experimental Physics.—Laboratory work arranged to accompany Course 21b.
Associate Professor Ives, Dr. Carter, Mr. Lorenz.

5a. Problems in Thermodynamics, Light and Electricity.—Lectures and recitations.
Assistant Professor Allen.

13b. Electrical Measurements.—Laboratory exercises with instruments of precision.
Assistant Professor Allen.

ROMANCE LANGUAGES.

Professor Ogden, Dr. Umphrey and Miss Kiely.

1. Elementary French.—Fraser and Squair, *French Grammar and Reader;* Dumas, *L'Evasion du Duc de Beaufort;* Malot, *Sans Famille;* Labiche, *La Grammaire;* Daudet, *Le Petit Chose.* Composition based on Fraser and Squair's *French Reader.*
Miss Kiely.

2. Intermediate French.—*First semester,* Fraser and Squair's *French Grammar,* Part II; François, *Advanced French Prose Composition;* Dictation and assigned reading from nineteenth century writers. *Second semester,* introductory study of French literature of the seventeenth century. Text-book, Aubert, *littérature française, première année.* Dictation and composition.
Assistant Professor Umphrey.

Course 2 is open to students who have taken Course 1, or its equivalent.

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